

1887.

CATALOGUE AND PRICE LISTS

—OF—

THE ARMSTRONG MFG CO. • WATER, GAS & STEAM FITTERS TOOLS
BRIDGEPORT, CONN.



CATALOGUES AND PRICES SENT ON APPLICATION

ARMSTRONG & CO., N.Y.

ADJUSTABLE STOCKS AND DIES
FOR PIPE AND BOLTS,
PIPE WRENCHES, PIPE VISES, ETC., ETC.

NEW YORK OFFICE, 132 CHURCH STREET, NEW NO. 216.

BRIDGEPORT, CONN.

CITY STEAM PRINTING COMPANY, 91 MIDDLE STREET.

1887.

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Advantages of Armstrong's Improved Adjustable Pipe Stock and Dies over the Solid Dies.

1ST.—The Armstrong Improved Dies can be adjusted to the variations in the size of fittings.

2ND.—The Armstrong Dies, by reason of their peculiar cutting edge, can be worked with much less labor, and accomplish the desired results in less time than with the solid Die.

3RD.—The Armstrong Dies have a double-taper, that is, the taper at the entrance for the first few threads is greater in degree than the standard taper, which forms a lead to the Dies, causing them to start on the pipe without filing, even when there is a swell or burr, and requiring no pressure to start the Dies on the pipe.

4TH.—The Armstrong Dies being made in parts can be more perfectly constructed : the cutting edges reached more directly ; the work done with greater precision and uniformity, by which they accomplish a much better result.

5TH.—The Armstrong Dies can be sharpened without drawing the temper, and can be kept in good condition easier and with less expense than any other Dies ever offered to the public. These Dies can be sharpened the same as any edge tool, and it is not necessary to send them to the manufacturer to be resharpened, as is the case with solid Dies when they become dull.

6TH.—The Armstrong Dies are interchangeable in the stock, and although adjustable, do not need adjusting to cut the standard size for which the Dies are made. The adjusting is only done when the irregularity or variations in the fitting make it necessary. There are corresponding marks ($\frac{S}{1}$) on the Stock and on the Dies ($\frac{1}{S}$) and when these marks are brought into line the Dies will cut the standard size.

7TH.—You will see that by having one of my No 2 Stocks you can by purchasing the Dies and Bushings use it for Pipe, Bolt or Brass Tubing.

Armstrong's Adjustable Stock, No. 1, and Dies for Threading Pipe.



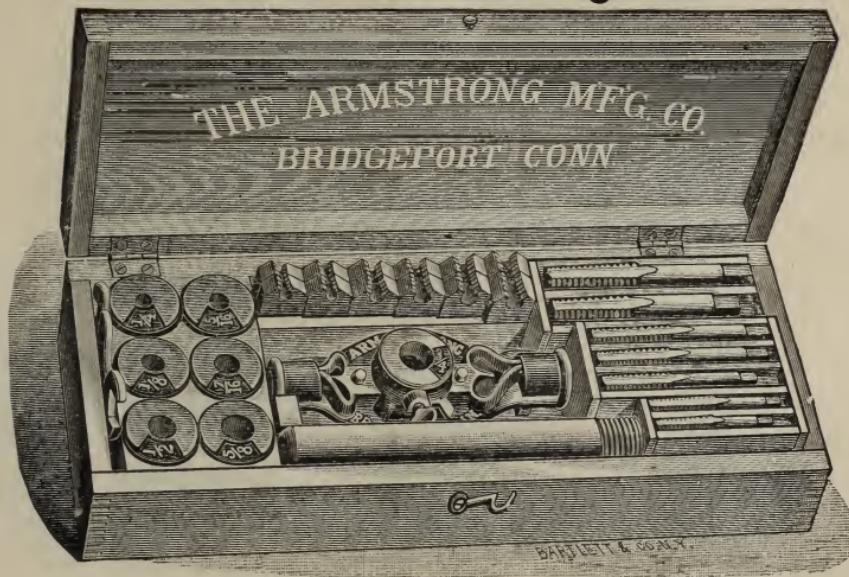
No. 1 Stock, 4 Right or Left Pipe Dies, $\frac{1}{8}$ to $\frac{1}{2}$, each \$9 00
" 1 " 4 each Right and Left Pipe Dies, $\frac{1}{8}$ to $\frac{1}{2}$, " 14 00

PRICE LIST IN PARTS.

No. 1 Stock,	- - - - -	each	\$3 00
" 1 Pipe Dies, Right or Left,	- - - - -	"	1 20
" 1 " Bushings,	- - - - -	"	20
" 1 Wrench,	- - - - -	"	25
" 1 Collar Screw,	- - - - -	"	12
" 1 Adjusting Screw,	- - - - -	"	10
" 1 Thumb Screw,	- - - - -	"	10

Stock and any number of Dies or parts furnished at above prices.

Armstrong's Adjustable Stock, No. 1, and Dies for Threading Bolts.



No. 1 Stock, 7 Bolt Dies, $\frac{1}{4}$ to $\frac{3}{4}$,	- - -	each \$15 00
" 1 " 4 Pipe and 7 Bolt Dies,	- - -	" 20 00
" 1 " 7 Bolt Dies and 7 Taps, $\frac{1}{4}$ to $\frac{3}{4}$,	- -	" 20 00

PRICE LIST IN PARTS.

No. 1 Stock,	- - - - -	each \$3 00
" 1 Bolt Dies, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$	"	1 50
" 1 Bolt Dies, - $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$	"	1 75
" 1 Bolt or Pipe Bushings, - - - - -	"	20
" 1 Wrench, - - - - -	"	25
" 1 Collar Screw, - - - - -	"	12
" 1 Adjusting Screw, - - - - -	"	10
" 1 Thumb Screw, - - - - -	"	10

 Stock and any number of Dies or parts furnished at above prices.

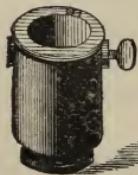
Armstrong's Adjustable Stock, No. 2, and Dies for Threading Pipe.



No. 2 Stock, 5 Pipe Dies, Right or Left, $\frac{1}{4}$ to 1 inch, \$12 00
" 2 " 5 each, Right and Left Pipe Dies, $\frac{1}{4}$ to 1, 19 50

PRICE LIST IN PARTS.

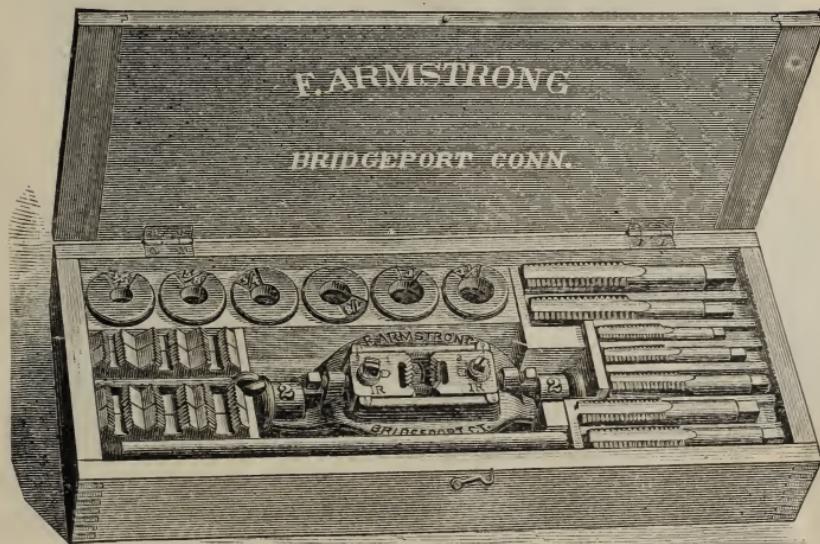
No. 2 Stock,	- - - - -	each	\$3 50
" 2 Pipe Dies, Right or Left,	- - - - -	"	1 50
" 2 Bushings,	- - - - -	"	25
" 2 Long Guide, with Thumb Screw,	- - - - -	"	50
" 2 Wrench,	- - - - -	"	25
" 2 Collar Screw,	- - - - -	"	12
" 2 Adjustable Screw,	- - - - -	"	10
" 2 Thumb Screw,	- - - - -	"	10



$\frac{1}{8}$ inch Dies and Bushing for No. 2, \$1 75.
Stock and any number of Dies or parts, furnished
at above Prices.

No. 2 Long Guide, with Thumb Screw.

Armstrong's Adjustable Stock, No. 2, and Dies for Threading Bolts.



FOR MACHINISTS AND BLACKSMITHS.

No. 2 Stock, 7 Bolt Dies, $\frac{1}{2}$ to $1\frac{1}{4}$ inch,	- - -	\$20 00
" 2 " 7 " " " " & 5 Pipe Dies, $\frac{1}{4}$ to 1,	30 00	
" 2 " 7 " " and 7 Taps, $\frac{1}{2}$ to $1\frac{1}{4}$ inch,	30 00	

PRICE LIST IN PARTS.

No. 2 Stock,	- - - - -	each \$3 50
" 2 Bolt Dies, $\frac{1}{2}$ and $\frac{5}{8}$, inch,	- - - - -	" 2 00
" 2 " " $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch,	- - - - -	" 2 25
" 2 " " $1\frac{1}{8}$ and $1\frac{1}{4}$ inch,	- - - - -	" 2 50
" 2 Bushings,	- - - - -	" 25
" 2 Wrench,	- - - - -	" 25
" 2 Collar Screw,	- - - - -	" 12
" 2 Set Screw,	- - - - -	" 10
" 2 Thumb Screw,	- - - - -	" 10

Stock and any number of Dies or parts furnished at above Prices.

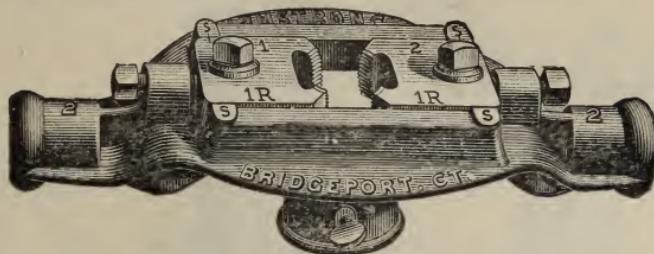


No. 0
MACHINIST'S
SCREW PLATE.

Stock with 7 Dies and 7 Taps, complete, $\frac{1}{4}$ to $\frac{3}{4}$.

— Price, \$20 00. —

Armstrong's Adjustable Stock, No. 2, and Dies for Threading Brass Pipe.



No. 2 Stock, 5 Brass Dies, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 and $1\frac{1}{4}$ inch, \$15 00
" 2 " 5 " " and Taps, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ 1 and $1\frac{1}{4}$ in., 26 25

PRICE LIST IN PARTS.

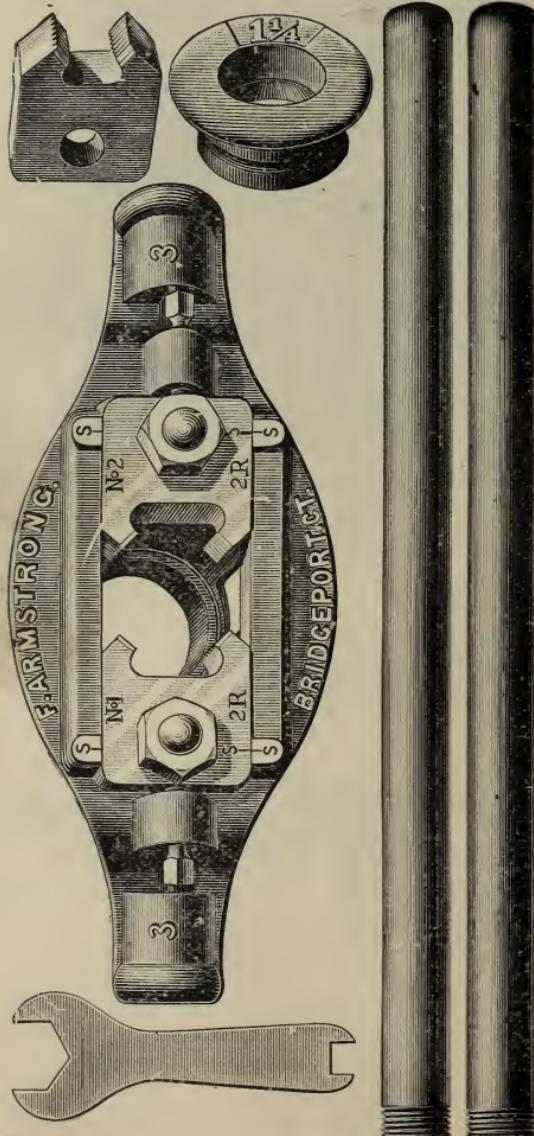
No. 2 Stock,	- - - - -	each	\$3 50
" 2 Brass Dies, Right or Left, $\frac{5}{8}$ to $1\frac{1}{4}$ inch,	"	"	2 50
" 2 Bushings—Pipe, Bolt or Brass,	- - - - -	"	25
" 2 Wrench,	- - - - -	"	25
" 2 Collar Screw,	- - - - -	"	12
" 2 Set Screw,	- - - - -	"	10
" 2 Thumb Screw,	- - - - -	"	10

The only true Standard Taps and Dies in the market for Brass Tubing.

Armstrong's Brass or Fine Thread Taps, Right or Left Hand.

Diameter.	No. of threads to Inch.	Price.
$\frac{5}{8}$ inch.	20	\$1 25
$\frac{3}{4}$ inch.	20	1 75
$\frac{7}{8}$ inch.	18	2 25
1 inch.	18	2 75
$1\frac{1}{4}$ inch.	18	3 25

Armstrong's Adjustable Stock, No. 3, and Pipe Dies.



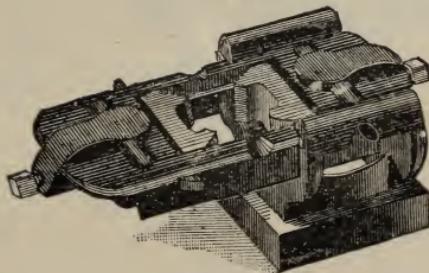
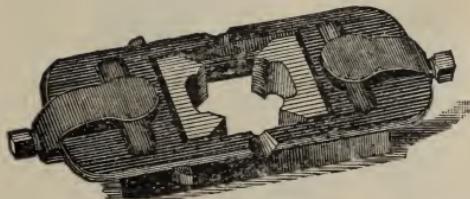
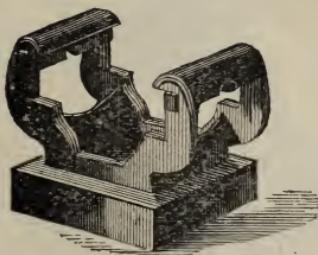
No. 3 Stock, 4 Dies, 1 to 2 inches, Right or Left, - \$24 00

PRICE LIST IN PARTS.

No. 3 Stock,	-	-	-	each \$7 00
" 3 Dies, Right or Left,	-	-	-	" 4 00
" 3 Bushings,	-	-	-	" 50
" 3 Wrenches, .25,	Collar Screws, .15,	Set Screw, .15	each.	

Stock and any number of Dies or parts, furnished at above Prices.

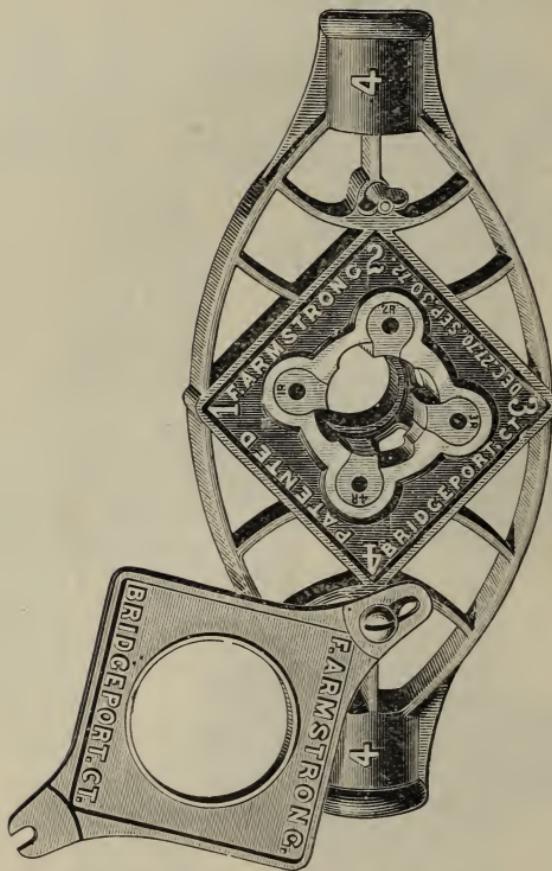
Armstrong's Machine Fixture for holding No. 3 Adjustable Dies from One to Two Inches.



Machine Fixture for No. 3 Dies, \$4 00

The above Cuts show the Fixture in parts and complete, and can be attached to any Piping Machine that takes Dies four by one inch.

ARMSTRONG'S SECTIONAL STOCK, No. 4, and DIES FOR PIPE.



PRICE LIST IN PARTS.

No. 4 Stock,	-	-	-	each \$7 50
" 4 Blocks with Cutter, Right or Left,	-	-	-	" 3 00
" 4 Bushings,	-	-	-	" 50
" 4 Block without Cutter,	-	-	-	" 1 00
Cutters, Right or Left,	-	-	-	" 50

No. 4 Stock 3 Dies, 1 $\frac{1}{4}$ to 2 inch,	-	-	-	\$18 00
" 4 " 3 Right and 3 Left Dies, 1 $\frac{1}{4}$ to 2 inch,	-	-	-	27 00
" 4 " 4 Dies, 1 to 2 inch,	-	-	-	21 00
" 4 " 4 Right and 4 Left Dies, 1 to 2,	-	-	-	33 00

Stock and any number of Dies, either Right or Left Hand, furnished at above Prices.

ARMSTRONG'S SECTIONAL DIE.



Block and Cutters, - - - - - \$3 00

The cut on the opposite page, showing the Stock with Die in plate, is No. 4 for threading pipe from one to two inches.

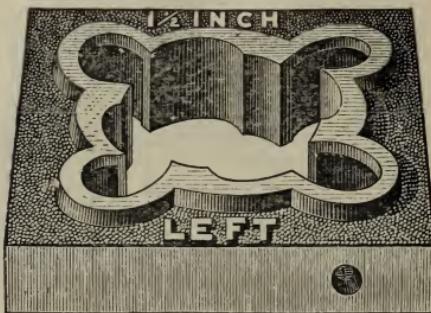
These Dies are intended to take the place of the Solid Steel Dies and will fit any Stock that takes a Die four by one inch.

They possess the following advantages over the Solid Dies:

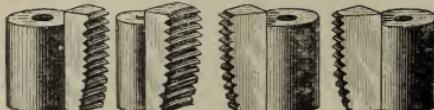
1ST.—Having to harden the Small Cutters only I am able to give them a high uniform temper, which will save greatly the wear of the thread.

2ND.—I claim this to be the only true standard Die in the market, because the Block, in which the Cutters are set, is made to standard gauge, and as the Cutters only are hardened, there is no expansion or contraction as in the Solid Dies caused by hardening.

ARMSTRONG'S SECTIONAL BLOCK and CUTTERS.



Block, - - - - - \$1 00



Cutters, - - - - - per set, \$2 00

3RD.—The Cutters can be taken out of the Blocks and ground when ever they become dull, as you will readily perceive.

4TH.—The Cutters have a double taper, that is the taper at the entrance for the first few threads is greater in degree than the standard taper, which forms a lead to the Dies, causing them to start on the pipe without filing when there is a burr; it requires no pressure whatever to start the Dies on the pipe. This Patent applies to all Dies made by me, and does away with the lead screw on all the Die plates or Stocks of my manufacture.

5TH.—They can be renewed by purchasing the Cutters only, since the Blocks will last any length of time, at a less cost than the Solid Dies.

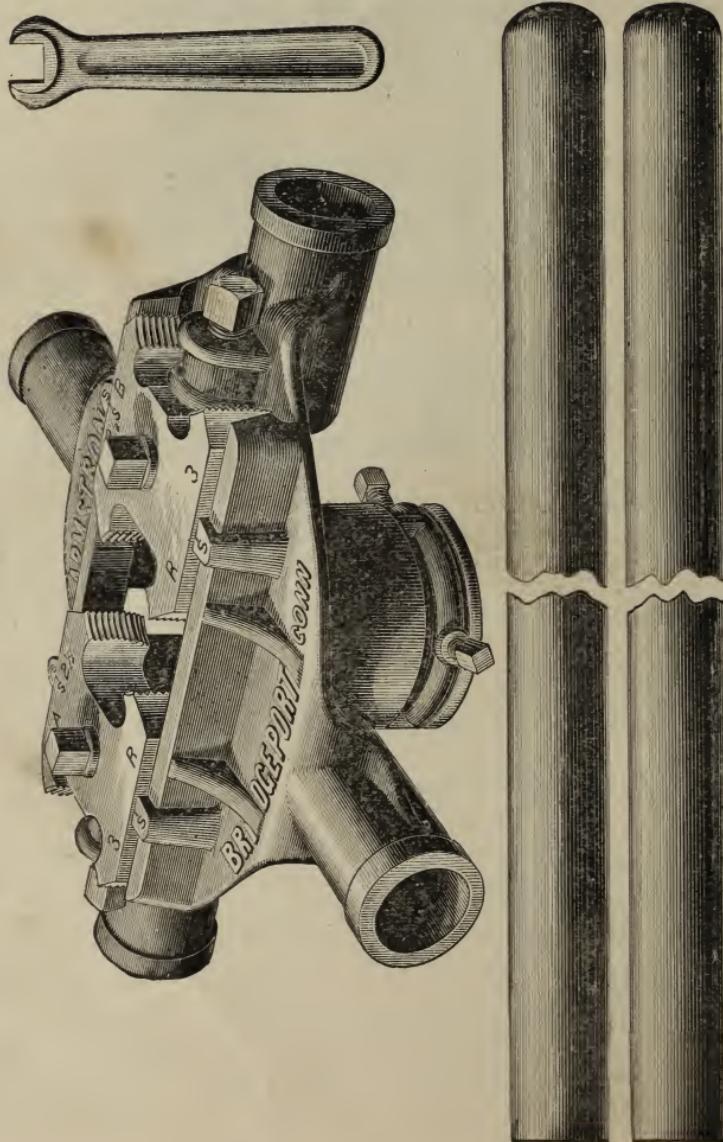
In case of damage or breakage to any one or more of the Cutters you have to purchase only those Cutters needed to replace the broken or damaged ones, as the Dies or Cutters are interchangeable.

You will note that the Cutters are numbered successively 1, 2, 3, 4, and all you will have to bear in mind is that they begin with No. 1, going to the right, 1, 2, 3, 4, as appears in the Block with Cutters in on the preceding page.

6TH.—The four Blocks, say 1 inch, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2 inches and the 16 Cutters (or four full sets) are interchangeable, and any sets of Cutters taken out of its present Block and placed in another will cut the size marked on the Block; again take all the Cutters out of the four Blocks and mix them up, take any, 1, 2, 3, 4 (Cutters) and put them in either 1 inch, $1\frac{1}{4}$, $1\frac{1}{2}$ or 2 inch Block, they will cut a true standard as marked on the Block.

From this you will see you can cut from one to two inches so long as you have the four Cutters, marked 1, 2, 3, 4 consecutively.

Armstrong's Adjustable Stock, No. 6, and Dies for
Threading Pipe, $2\frac{1}{2}$ and 3 inch.



The cut on opposite page represents No. 6 Stock with Dies cutting $2\frac{1}{2}$ and 3 inch pipe.

They are adjustable to the variations in fittings, and have the double taper so that they will start on the pipe without lead screw.

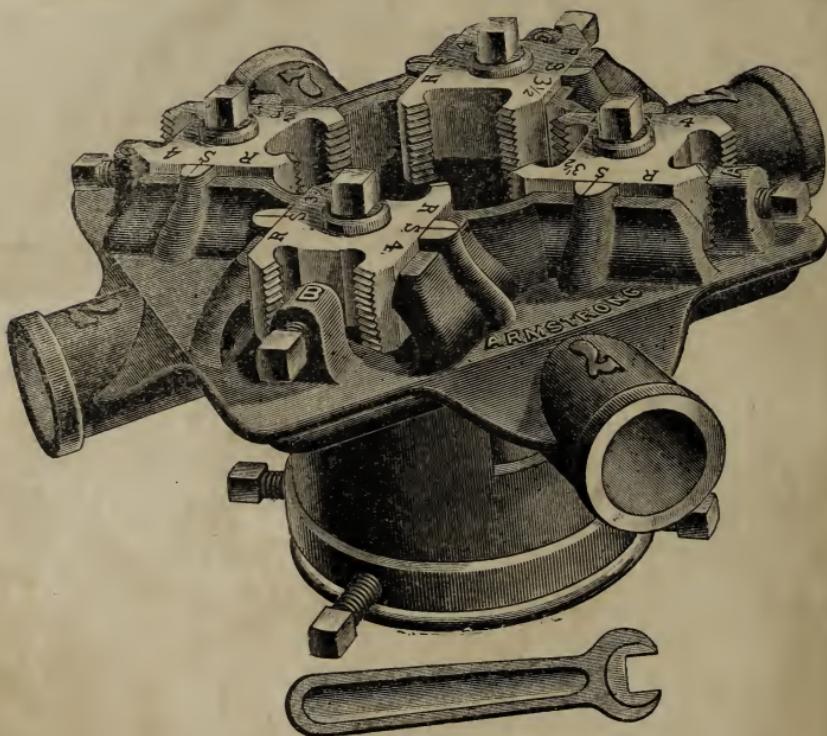
The change from $2\frac{1}{2}$ to 3 inch is made by simply reversing the dies end for end when they will cut to standard sizes without further adjustment.

PRICE LIST.

No. 6 Stock with Dies cutting $2\frac{1}{2}$ and 3 inch,	-	\$40 00
" 6 Stock without Dies,	- - - - -	25 00
" 6 Dies cutting $2\frac{1}{2}$ and 3 inch,	- - - - -	15 00
" 6 Bushings,	- - - - -	1 00
" 6 Wrench, steel forged,	- - - - -	50
" 6 Collar Screw,	- - - - -	25
" 6 Set Screw,	- - - - -	20

Stock and any number of Dies or parts at above
Prices,

Armstrong's Adjustable Stock, No. 7, and Dies for
Threading Pine 2 1/2 3 3 1/2 and 4 inch.



This Stock, with One Set of Dies
Cutting either 2 1/2 and 3, Or 3 1/2 and 4 inch.
\$50.00

Armstrong's Adjustable Stock, No. 7,
and Dies for Threading Pipe,
 $2\frac{1}{2}$, 3, $3\frac{1}{2}$, and 4 inch.

These Dies come in sets of four. Each piece being double ended. We can furnish them threaded

$2\frac{1}{2}$ and 3

$3\frac{1}{2}$ and 4

or all ends alike in any of the above sizes.

They have same Adjustable Features and Double Taper as our other Dies.

PRICE LIST.

No. 7, Stock with Dies, $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4 inch,	\$60 00
" 7, Dies, <i>Per Set of Four Pieces</i>	16 00
" 7, Bushings,	1 50
" 7, Collar Set or Leader Screw,	. 25
" 7, Stock Wrench,	. 75

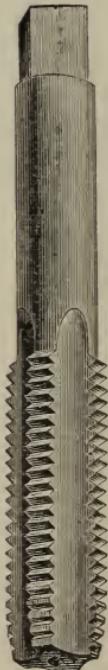
HAND AND MACHINE TAPS.



Machine Nut-Tap.



Taper Tap.



Plug Tap.



Bottoming Tap.



Short-Shank Die
Hob, for cutting
open Die.

PRICE LIST

—OF—

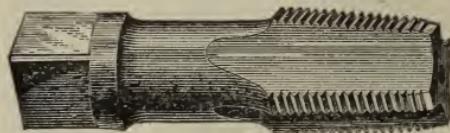
HAND AND MACHINE TAPS.

Diameter.	No. of threads to Inch.	Hand Taps, Price each.	Hand Taps, Price, per set.	Machine Nut- Taps, Price each
$\frac{1}{4}$ in.	18, 20 and 22	\$ 45	\$1 35	\$ 60
$\frac{5}{16}$ in.	16 and 18	50	1 50	70
$\frac{3}{8}$ in.	14, 16 and 18	55	1 65	80
$\frac{7}{16}$ in.	12, 14 and 16	60	1 80	90
$\frac{1}{2}$ in.	12, 13 and 14	70	2 10	1 00
$\frac{9}{16}$ in.	12 and 14	80	2 40	1 15
$\frac{5}{8}$ in.	10, 11 and 12	90	2 70	1 30
$\frac{11}{16}$ in.	11 and 12	1 05	3 15	1 45
$\frac{3}{4}$ in.	10, 11 and 12	1 20	3 60	1 60
$\frac{13}{16}$ in.	10	1 40	4 20	1 80
$\frac{7}{8}$ in.	9 and 10	1 60	4 80	2 10
$\frac{15}{16}$ in.	9	1 80	5 40	2 40
1 in.	8	2 00	6 00	2 80
$1\frac{1}{8}$ in.	7 and 8	2 25	6 75	3 20
$1\frac{1}{4}$ in.	7	2 60	7 80	3 70
$1\frac{3}{8}$ in.	6	3 00	9 00	4 20
$1\frac{1}{2}$ in.	6	3 50	10 50	4 70
$1\frac{5}{8}$ in.	5 and $5\frac{1}{2}$	4 20	12 60	5 30
$1\frac{3}{4}$ in.	5	5 00	15 00	6 00
$1\frac{7}{8}$ in.	$4\frac{1}{2}$ and 5	5 80	17 40	6 80
2 in.	$4\frac{1}{2}$	6 70	20 10	7 70

PIPE TAPS

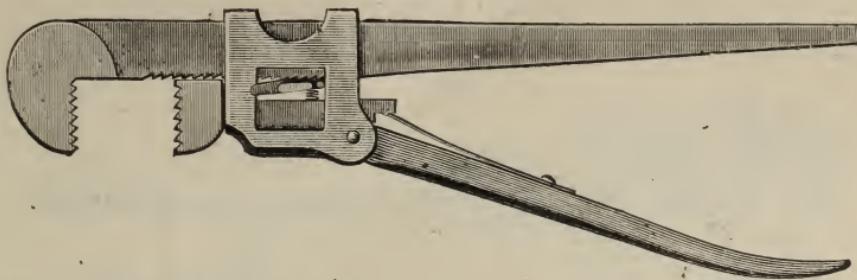
—AND—

REAMERS.



Pipe-taps, with right or left-hand threads, pipe-hobs and
reamers are made of the following sizes, and kept in stock:

Diameter.	Price.	Diameter.	Price.
$\frac{1}{8}$ inch.	\$1 12	$1\frac{1}{2}$ inch.	\$4 62
$\frac{1}{4}$ inch.	1 25	2 inch.	6 25
$\frac{3}{8}$ inch.	1 50	$2\frac{1}{2}$ inch.	10 50
$\frac{1}{2}$ inch.	1 87	3 inch.	15 00
$\frac{3}{4}$ inch.	2 50	$3\frac{1}{2}$ inch.	22 00
1 inch.	3 12	4 inch.	33 00
$1\frac{1}{4}$ inch.	3 75		



RAPID TRANSIT WRENCH.

This Wrench, made of Best Hammer Steel forgings,
(excepting Yoke) is

Simple, Practical and Powerful.

Susceptible of quicker adjustment than any Wrench in
the market, and as it can be used on either
Square or Round Surfaces, it is

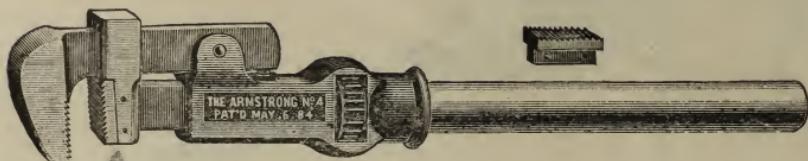
A Useful Tool in the Household,
and especially in Machine shops,
saving Time and Labor.

No. 1 takes from 0 to $\frac{1}{2}$ inch, - - - each, \$2 50
" 2 " " 0 to 1 " - - - " 2 75

Nickel plated 25 cents extra.

To open the Wrench, lift the self-adjusting rachet.

THE ARMSTRONG.



A NEW PIPE WRENCH.

Will not crush the Pipe.

Unequaled by any ever offered for Strength, Lightness and Quick Action combined with simplicity in construction.

A trial will convince any one that it is all I claim for it.

PRICES FOR EACH:

No. 3, takes from 0 to 1 inch,	-	-	-	-	\$2 00
" 4, " " $\frac{1}{8}$ " $1\frac{1}{2}$ "	-	-	-	-	2 75
" 5, " " $\frac{3}{8}$ " $2\frac{1}{2}$ "	-	-	-	-	4 50
" 6, " " 1 " 4 " "	-	-	-	-	12 00

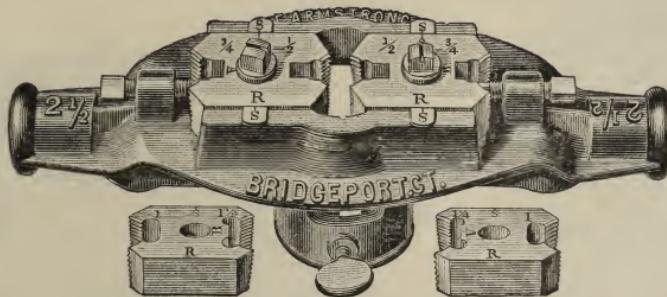
EXTRA JAWS.

No. 3, 40c. No. , 50c. No. 5, 70c. No. 6, \$1 00

Kinder return this
book 2140

ARMSTRONG'S ADJUSTABLE STOCK,

No. 2½



And Dies for Threading Pipe.

No. 2½ Stock, 4 Dies, Cutting $\frac{1}{2}$, $\frac{3}{4}$, 1 and $1\frac{1}{4}$ in.

Right Hand, \$12.00

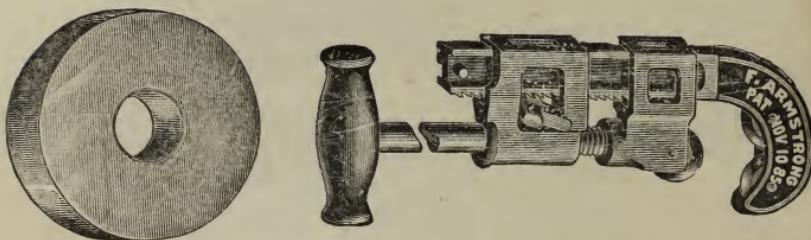
" 2½ " 4 each, Right and Left Dies, $\frac{1}{2}$ to $1\frac{1}{4}$, 18.00

PRICE LIST OF PARTS.

No. 2½ Stock,	- - - - -	each	\$4.50
" " Dies, Right or Left, cutting $\frac{1}{2}$ and $\frac{3}{4}$	"		3.00
" " " " " " 1 and $1\frac{1}{4}$	"		3.00
" " Bushings, - - - - -	"		.40
" " Wrench, - - - - -	"		.25
" " Collar Screw, - - - - -	"		.15
" " Adjusting Screw, - - - - -	"		.15
" " Thumb, - - - - -	"		.10

— T H E —

Armstrong Pipe Cutter.



This Pipe Cutter is not only the *strongest* and most *rapid* working, but it is the *cheapest*, by reason of its taking a larger range of pipe, than any Pipe Cutter known to us. As will be seen by schedule below, a No. 1 and No. 3, takes a range of pipe *from one-eighth of an inch to four inches inclusive*.

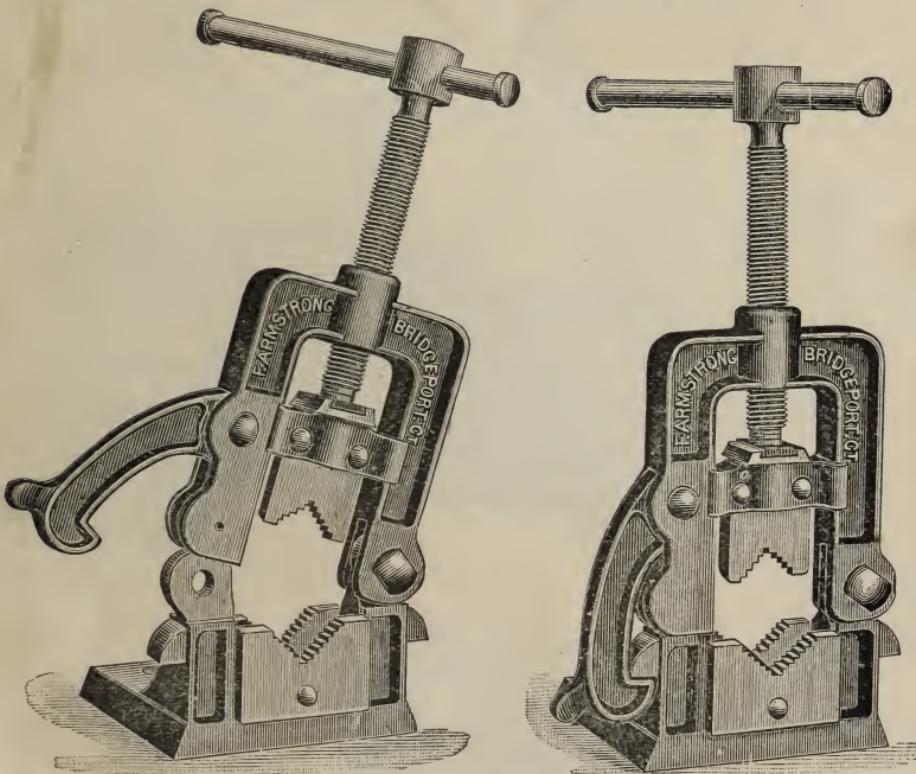
To change from a small to a large size it is only necessary to raise the ratchet or pawl, by which the hooked bar is held in position, and allow the bar to slide out to the size required.

We also make rollers adapted to this cutter, whereby its working can be changed from a three wheel to a one wheel cutter, by simply substituting the rollers in place of the two cutter wheels at the end of hooked bar.

P R I C E S :

No. 1	Cutting from $\frac{1}{8}$ to $1\frac{1}{4}$ in.,	-	-	-	\$4.50
" 2 "	" $\frac{1}{2}$ " $2\frac{1}{2}$ "	-	-	-	6 00
" 3 "	" $1\frac{1}{2}$ " 4 "	-	-	-	20.00
No. 1	Cutter Wheels or Rollers, each,	-	-	-	.25
" 2 "	" " "	-	-	-	.30
" 3 "	" " "	-	-	-	.50

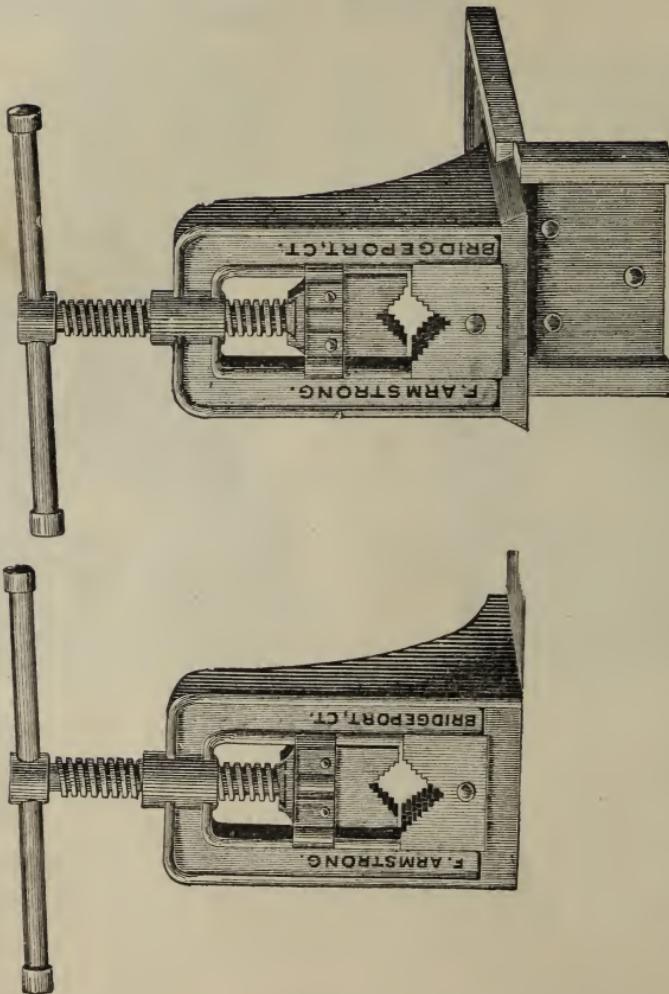
Armstrong's Hinged Vises.



The above cuts represent a view of my new Improved Hinged Vises. They are so simple in construction that any further explanation is unnecessary. They are of the best Malleable Iron, and are made on the interchangeable system, so that any of the parts can be replaced, if it should become necessary.

No. 1 will hold from 0 to $2\frac{1}{2}$ inch pipe,	.	Price, \$10 00
" 2 " " " $\frac{1}{2}$ " $4\frac{1}{2}$ " "	.	" 20 00

Armstrong's Plain Vises.



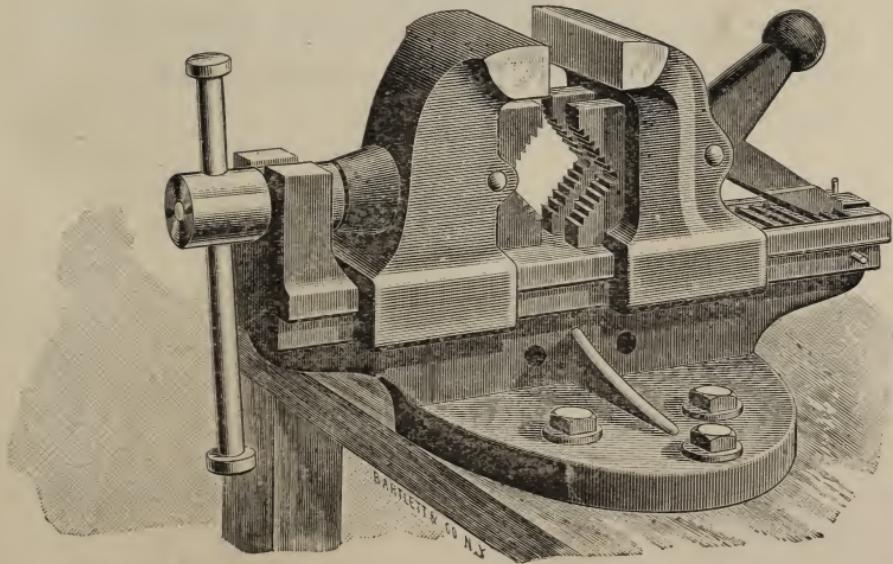
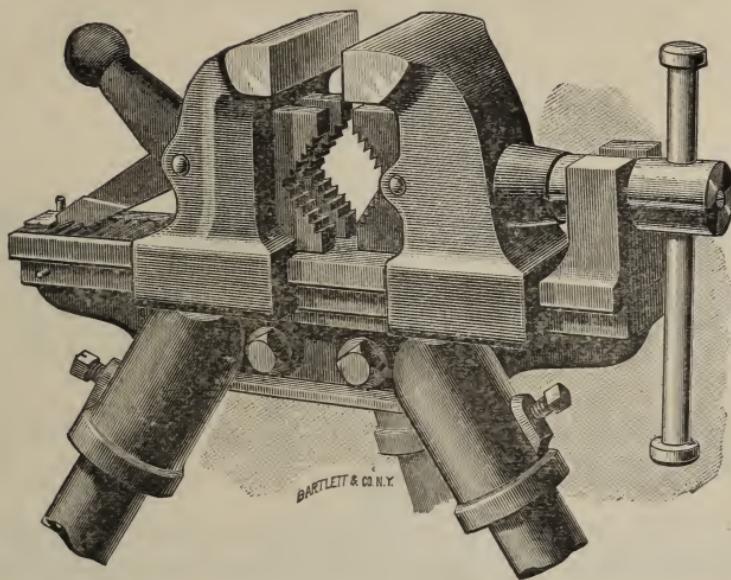
No. 1 Vice, takes $\frac{1}{8}$ to 2 in.
Price, \$8 00.

No. 1 Vice, with Angle Plate,
takes $\frac{1}{8}$ to 2 inch.
Price, \$12 00.

Cast Iron Angle Plate.

Made of the best Malleable Iron, Steel Jaws.

Armstrong's Combination Pipe and Bench Vise.



ARMSTRONG'S COMBINATION PIPE AND BENCH VISE.

Illustrations opposite shows a Vise combining new and useful features. Being provided with detachable sockets for legs it can be used on a Bench or becomes a portable Vise with stand by using 1 $\frac{1}{4}$ Pipe for legs.

We do not furnish the pipe, excepting where specially ordered, when an extra charge will be made for same.

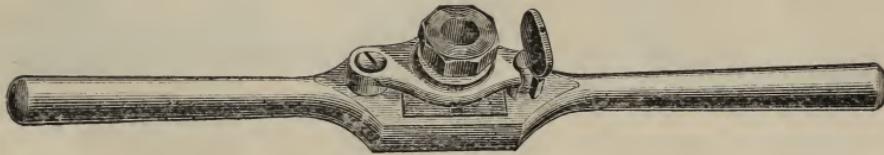
Vice takes Pipe 0 to 2 inch.

PRICE LIST.

Vise with Sockets for Legs,	.	.	.	.	.	.	\$16 00
“ without “ “ “	.	.	.	.	.	.	12 00
Sockets, per set,	.	.	.	.	.	.	4 00
Pipe for Legs,	.	.	.	.	.	.	1 25

Regular heigh work bench takes 3 feet 10 inches for each leg.

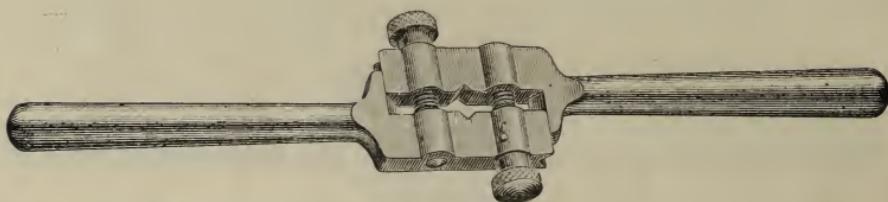
NEW
ADJUSTABLE
TAP WRENCH.



Takes $\frac{1}{4}$ to $\frac{1}{2}$ inch.

PRICE, \$2.00.

ARMSTRONG'S PATENT TAP WRENCH.



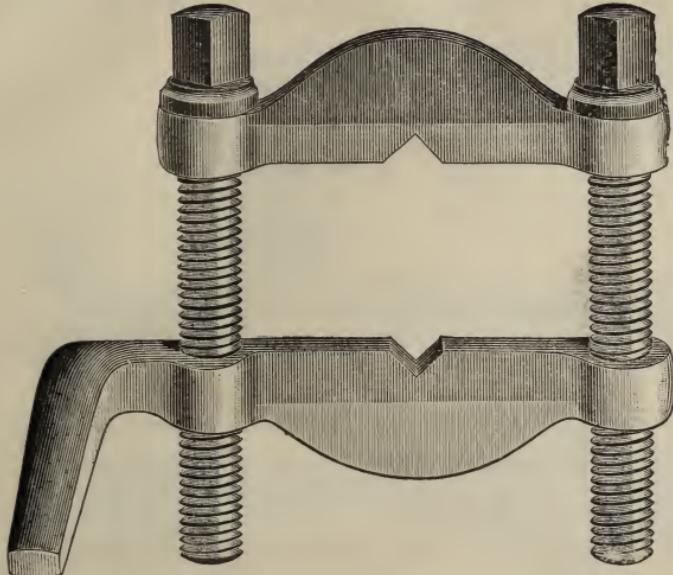
No. 1. 12 inches long, fitting Bolt Taps $\frac{1}{4}$ to $\frac{5}{8}$ in. \$1 50

No. 2 { 18 inches long, fitting Bolt Taps $\frac{5}{8}$ to 1 in.
" Pipe " $\frac{1}{8}$ " $\frac{1}{2}$ " } \$2 50

No. 3 { 30 inches long, fitting Bolt Taps 1 to $1\frac{1}{2}$ in.
" Pipe " $\frac{1}{2}$ " 1 " } \$4 00

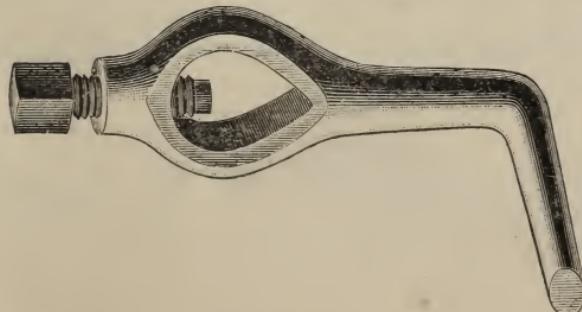
These Wrenches are the most practical tools of the kind in the market, combining simplicity and strength with quick adjustment.

DROP FORGED CLAMP DOG.



No. 1.	1 $\frac{3}{4}$	inches between screws,	.	.	.	.	\$1 50
"	2.	2 $\frac{1}{4}$	"	"	"	.	2 00
"	3.	2 $\frac{3}{4}$	"	"	"	.	2 50
Per set of three	.	.	.	.	.	.	5 50

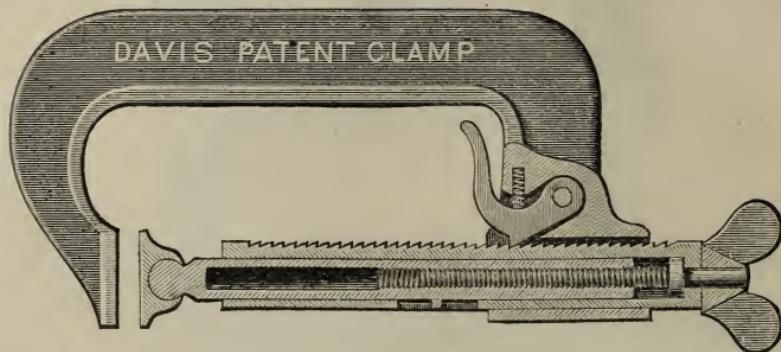
DROP FORGED STEEL DOGS.



PRICE.

$\frac{3}{8}$ in., 50c. $\frac{1}{2}$ in., 60c. $\frac{3}{4}$ in., 70c. 1 in., 80c.

PATENT CLAMPS.



The new Clamp represented in the above cut on account of combining the qualities of quick adjustment and durability, recommends itself as the most practical tool of the kind ever offered in the market. It has the especial advantage over all others in clamping the work without displacement, being so constructed that in operating the plunger or screw it does not turn as in all other clamps, but is forced directly on the work by the thumb-screw.

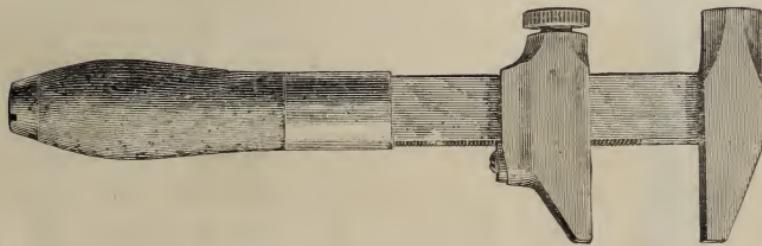
These clamps are made of the best malleable iron, and a trial of them will prove the justice of my claim for their being not only the cheapest and easiest working, but the only practical adjustable clamp made.

PRICE LIST.

No. 1, opens 3 inches,	dozen, \$ 7 50
" 2, " 5 "	" 8 50
" 3, " 7 "	" 12 00
" 4, " 10 "	" 16 00
" 5, " 12 "	" 20 00

DAVIS' PATENT

MONKEY WRENCH.



Will open one inch more than any

Wrench of its size ever made.

One Dozen, - - - - \$12.00

ARMSTRONG'S PATENT LADDER HOOK



*A Useful Article to all who use Ladders, especially to
Painters, Masons and Fruit Pickers.*

As will readily be seen from cut, by pulling tongue it will clamp with foot on
two rounds of the Ladder.

These Hooks are made of Forged Iron and are strong and reliable.

Price, - - - - - \$1.50.

TESTIMONIALS.

We have almost constantly unsolicited testimonials coming from our customers — some few of which we take the liberty to append.

GRAFTON, Mass., Dec. 27, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Enclosed please find check to balance account of Hassanamisco Water Co., \$37.00.

The tools give perfect satisfaction and I would recommend to all persons in need of first-class dies for cutting thread on iron pipes.

Very truly,

SOLON F. SMITH, Sup't.

SKANNEATELES FALLS, N. Y., Nov. 22, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Am pleased to say the Bolt Dies and
Taps work to our satisfaction.

Very truly,

F. G. WEEKS.

W. T. HALE, Sup't.

SALEM, Va., Nov. 6, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Please send me $\frac{1}{2}$ inch Right Hand
Die for your No. 2 Stock, shipped me September 19, 1886.
They are the best I ever used.

ROBT. H. CARPER.

ASBURY PARK, N. J., Dec. 8, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

On the 6th of February, 1885, we purchased from you a set of (No. 6) Right Hand Dies with loose cutters. These dies have given us great satisfaction.

* * * Yours truly,

URIAH WHIITE.

Per JAS. L. BLACK.

UPPER DAM, Maine, October 7, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Will you please send me one of your price lists. I have already used some of your Piping tools and like them better than any other.

Yours truly,

W. E. RAND.

ORANGE, Mass., October 14, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Please send catalogue and prices of your Stocks and Dies Pipe Wrenches and Vises, with discounts. I am going to get some tools and like yours best.

Yours truly,

M. W. MAYO.

SLIGO, Pa., November 25, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Please send to us by Express * * * We are using and selling the Armstrong Stock and Dies and find them superior to any we have ever had.

Yours truly,

J. B. MILLER & SON.

BROOKLYN, N. Y., Nov. 26, 1884.

F. Armstrong, Esq.

DEAR SIR:—

I have used for the past three years, and keep for sale the Armstrong Stocks and Dies. They are a splendid tool for threading iron or brass pipe, and therefore I highly recommend them as a superior Stock and Die.

Very respectfully yours,

JAS. W. BIRKETT,

67 Smith Street,

Brooklyn, N. Y.

NEW YORK, Nov. 26th, 1884.

Mr. F. Armstrong,

132 Church Street.

DEAR SIR:—We have used your Stocks and Dies for the past four years in the construction and erection of our refrigerating apparatus. We use them exclusively for all hand-cut threads, having in constant use about two dozen Stocks. We are happy to testify that they give excellent satisfaction.

Yours very respectfully,

THE DE LA VERGNE REF'G CO.,

Per J. E. WILSON,

Mech. Sup't.

ALBANY, N. Y., Feb. 25, 1887.

The Armstrong Mfg Co.

GENTLEMEN:—

I want to congratulate you on your new Rapid Transit Pipe Wrench. I think it is the best Wrench in the market.

Yours very respectfully,

THOMAS HYDE.

BUFFALO, N. Y., September 30, 1884.

F. Armstrong, Esq.

DEAR SIR:—

The Stocks and Dies of your manufacture used by us during the last four or five years have given good satisfaction. We are using them now exclusively in our business as well as in the work shop, as the best we know of.

Most respectfully yours,

IRLBACKER & DAVIS.

DANBURY, Conn., Sept. 29, 1884.

F. Armstrong.

SIR :—

We have had your Stock and Dies in use in our shop for over five years and we give them the preference to any that we know of for the same purpose. We have examined various others and have bought some since we began to use yours but yours are the *best*.

Yours truly,

THE J. M. IVES CO.,

Per J. M. Ives, Pres't.

KINGSTON, N. Y., October 9, 1884.

F. Armstrong, Bridgeport, Conn.

DEAR SIR:—

The Stocks and Dies cutting from 1 to 3 inches, recently bought of you, have proved very satisfactory, doing their work better and much easier than any other I have ever used.

• Respectfully yours,

J. M. LOW,

Supt. Kingston Water Works.

BRIDGEPORT, Conn., Oct. 14, 1884.

F. Armstrong, Esq.

DEAR SIR:—

We have used your Sectional and Adjustable Dies, both in our stocks and machines for the past eighteen months, and are so well pleased with them, that we have adopted them exclusive of all others. More especially do we commend the Sectional Dies for machine use, as they will cut from 1,000 to 1,200 more threads without repairs than any other dies we have ever used.

Yours respectfully,

J. R. BROWN,

Supt. for The Auto. Fire Alarm
and Extinguisher Co.

BURLINGTON, Vt., Sept. 30th, 1884.

F. Armstrong, Bridgeport, Conn.

DEAR SIR:—

We have in use three complete sets of the Armstrong Stocks and Dies. Our men that use them say they are the best thing for cutting pipe threads by hand that they have ever seen.

WHEELOCK & KINGSLAND.

BOSTON, Nov. 19, 1884.

Mr. F. Armstrong, Bridgeport, Conn.

DEAR SIR:—

Having used and sold your goods for a number of years, we take pleasure in bearing testimony to the fact that they give the best of satisfaction wherever used. We heartily recommend them for their durability and labor-saving qualities.

Yours truly,

GEO. K. PAUL & CO.,

Per W. P. PIERCE.

THE BRIDGEPORT GAS LIGHT CO.

C. A. GERDENIER, SUPERINTENDENT.

BRIDGEPORT, Conn., Dec. 1st, 1884.

Mr. F. Armstrong.

DEAR SIR:—

We have had in use for five or six years your Stocks and Dies, and I have no hesitation in saying they are the *best* we ever had. The Dies do cut a beautiful thread.

Yours truly,

C. A. GERDENIER,

Sup't Gas Works.

CITY OF BRIDGEPORT, Dec. 1st, 1884.

Mr. F. Armstrong.

DEAR SIR:—

The special Tap and Die you made for the Fire Department for tapping and cutting over (when injured) the hose couplings works to a charm and we would not be without it. We also use the Die to cut over the discharge nipple to the hydrants when they are injured. It works fine and gives no trouble.

Yours truly,

CHAS. A. GERDENIER,

Chief Eng. Fire Depar't.

Bridgeport, Ct.

PROVIDENCE, R. I., Aug. 5th, 1882.

F. Armstrong, Esq.

DEAR SIR:—

Have had for the past eight months your Patent Adjustable Stock and Dies in use and find that in many cases they can be used when the Solid Dies would be of no avail; and the ease with which they catch, and the smoothness and evenness of the threads make them superior to others—and have found the same much more satisfactory in every particular than I had first supposed.

Yours respectfully,

DAVID BURTON,

Steam and Gas Pipe Works, 110 Eddy Street.

NEW LONDON, Conn., Aug. 2d, 1882.

F. Armstrong, Esq.

DEAR SIR:—

We have used your No. 2 Stock and Dies for the past three years and find them every way satisfactory. We use it constantly, as our men will not use the old pattern Stock if they can get yours. We have ground the Dies several times and they cut as well as ever. We had the first one used in the city, but see that all others in our line are using them now.

Yours, etc.,

MALLORY & CO.

RUTLAND, Vt., Aug. 28, 1884.

Mr. F. Armstrong.

DEAR SIR:—

Please find enclosed draft for Twenty-four and $\frac{50}{100}$ Dollars, in settlement of account.

I am more than pleased with my Die Stock and Dies and would not take three times what it cost if I could not get another.

Yours, etc.,

E. A. VALIQUETTE.

UTICA, N. Y., Sept. 29, 1884.

F. Armstrong, Esq.

DEAR SIR:—

We have been using and selling for some time past the Armstrong Stocks and Dies and find them excellent and we believe them to be giving good satisfaction to our customers.

WM. DENT & SON.

WASHINGTON, D. C., July 15, 1879.

F. Armstrong, Esq., Bridgeport, Conn.

DEAR SIR:—

For six months we have had three sets of your "Patent Adjustable Stocks and Dies" in constant operation, and I hereby express my unqualified approbation, both as to the quantity of work they do and the manner in which they perform it.

With one set, during that time, we have cut on an average twenty threads per day, and only within the last month has the Die needed grinding.

The extreme ease with which it catches the thread is also a feature which merits my earnest commendation.

For quick work, accuracy and durability, they are, in my opinion, superior to any ever manufactured.

Yours truly,

JAMES WILKINSON,

Supt. Washington Gas Light Co.

LIST

Showing Points Where Our Goods May Be Obtained,

WITH DEALER'S NAMES.

ALABAMA.

Birmingham Milner & Kettig

ARKANSAS.

Little Rock D. R. Wing & Co.

CALIFORNIA.

Los Angeles Schoder, Johnston & Co.

Oakland Dalziel & Moller

San Francisco Hawley Bros. & Co.

" Huntington, Hopkins & Co.

COLORADO.

Denver National Machinery Co.

CONNECTICUT.

Hartford Knox & Cunningham

" Pratt & Whitney Co.

New Haven C. S. Mersick & Co.

DISTRICT OF COLUMBIA.

Washington H. McShane & Co.

FLORIDA.

Jacksonville Geo. F. Drew & Co.

GEORGIA.

Atlanta.....	Beck & Gregg.
Augusta.....	Geo. R. Lombard

ILLINOIS.

Chicago.....	Machinists' Supply Co.
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INDIANA.

Indianapolis.....	Knight & Jillson
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KENTUCKY.

Louisville.....	The Ahrens & Ott M'f'g Co.
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LOUISIANA.

New Orleans.....	Louis Schwartz
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MAINE.

Portland.....	T. L. Merrill & Co.
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MASSACHUSETTS.

Boston.....	Geo. K. Paul & Co.
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".....	Walworth M'f'g Co.
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Worcester.....	Joseph Masou
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MICHIGAN.

Detroit.....	Detroit Sheet Lead Pipe Works
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Grand Rapids.....	Schriver, Weatherly & Co.
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MINNESOTA.

Minneapolis.....	Janny Semple & Co.
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St. Paul.....	Willis, Rogers & Co.
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".....	H. P. Rugg & Co.
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MISSOURI.

Kansas City.....	English Bros. M'f'g Co.
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St. Louis.....	L. M. Rumsey M'f'g Co.
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".....	Simmons Hardware Co.
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".....	Nelson, N. O. M'f'g Co.
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NEBRASKA.

Omaha.....	The A. L. Strang Co.
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NEW HAMPSHIRE.

Manchester	S. C. Forsaith Machinery Co.
Portsmouth	Rider & Cotton

NEW JERSEY.

Newark	Macnet & Doremus
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NEW YORK.

Albany	M. E. Veile
Brooklyn	Henry McShane & Co.
Buffalo	Irlbacker & Davis
Rochester	Louis Ernst & Son
Syracuse	Pierce, Butler & Pierce
Troy	Troy Belting & Supply Co.
New York City	Henry A. Rogers
" "	McNab & Harlin
" "	Manning, Maxwell & Moore
" "	W. C. Duyckink
" "	Peck Bros.

OHIO.

Cincinnati	Cincinnati Sheet & Lead Pipe Works
Cleveland	Edward H. Foster
Toledo	Shaw, Kendall & Co.

PENNSYLVANIA.

Philadelphia	Taws & Hartman
Pittsburgh	Pittsburgh Supply Co.
Scranton	Hunt & Connell

RHODE ISLAND.

Pawtucket	Pawtucket Steam & Gas Pipe Co.
Providence	Providence " " "

TENNESSEE.

Chattanooga	C. E. James & Co.
Knoxville	Chas. Kurth

WISCONSIN.

Milwaukee	Thomas & Wentworth M'f'g Co.
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CANADA.

Montreal	J. & H. Taylor
"	Thos. Robertson & Co.
Toronto	J. B. Cloudsley
"	Jas. Morrison
Kingston	McKevely & Birch
Hamilton	Young & Bro.

Hamburg, Germany	A. W. Niemeyer
Brussels, Belgium	Louis Reinelt
Vienna, Austria	A. W. Kirsch
London, England	Chas. Churchill & Co.

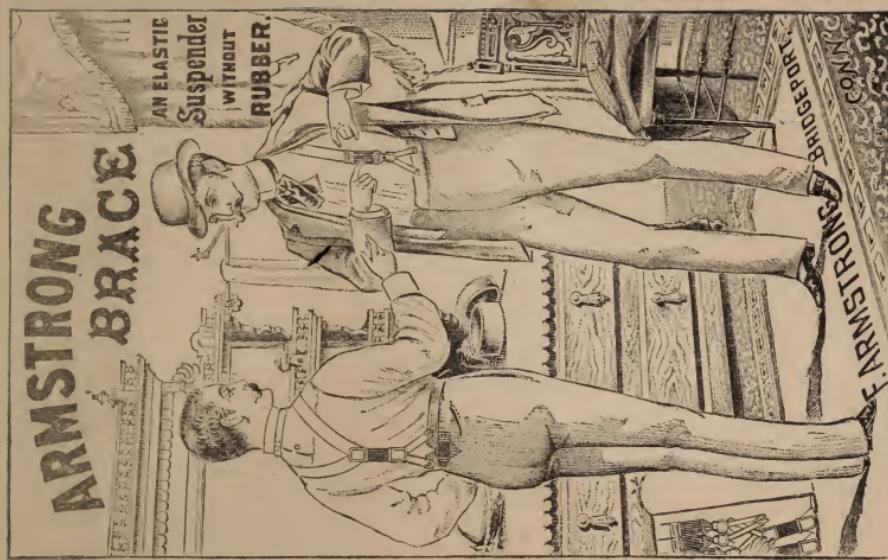
WROUGHT IRON WELDED PIPE

FOR STEAM, GAS, WATER, OR OIL.

1 inch and below, built-welded; proved to 300 pounds per square inch hydraulic pressure.
 1½ inch and above, lap-welded; proved to 500 pounds per square inch hydraulic pressure.

TABLE OF STANDARD SIZES.

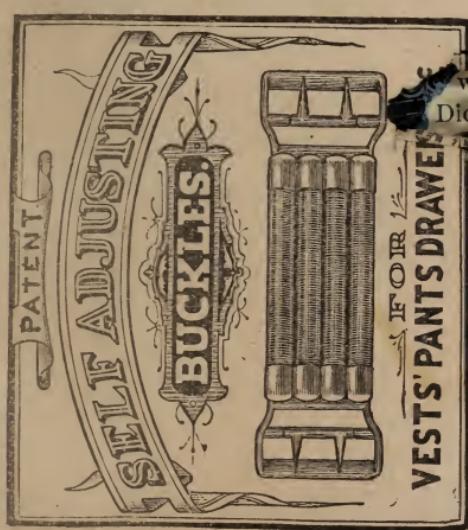
Inside Diameter.	Actual Outside Diameter.	Length of Pipe per sq. ft. of Outside Surface.	External Circumference.	Internal Area.	External Area.	Length of Pipe containing one Cubic Foot.	Weight per foot of Length.	No. of Threads per inch of Screw.
1/8	.405 in.	1.272 in.	9.44 ft.	.0572 in.	.129 in.	2500 ft.	.243 lbs.	27
1/4	.54 " "	1.696 "	7.075 "	.1041 "	.229 "	422 "	.422 "	18
3/8	.675 "	2.121 "	5.657 "	.1615 "	.38 "	1.1-5 "	.561 "	18
1/2	.84 "	2.652 "	4.502 "	.2048 "	.554 "	1.72-4 "	.845 "	14
5/8	1.05 "	3.299 "	3.037 "	.2387 "	.866 "	1.97-3 "	1.126 "	14
3/4	1.315 "	4.134 "	2.903 "	.2627 "	1.357 "	1.66-9 "	1.670 "	11 1/2
1	1.66 "	5.215 "	2.303 "	.1496 "	3.164 "	96-25 "	2.258 "	11 1/2
1 1/4	1.9 "	5.969 "	2.01 "	2.038 "	3.835 "	70-65 "	2.694 "	11 1/2
1 1/2	2.375 "	7.461 "	1.611 "	3.355 "	4.430 "	43-36 "	3.667 "	11 1/2
2	2.875 "	9.032 "	1.328 "	4.783 "	6.491 "	30-11 "	5.773 "	8
2 1/2	3.5 "	10.396 "	1.091 "	7.388 "	9.621 "	19-49 "	7.547 "	8
3	4 "	12.566 "	.955 "	9.837 "	12.566 "	14-56 "	9.055 "	8
3 1/2	4.5 "	14.137 "	.849 "	12.730 "	15.94 "	11-31 "	10.728 "	8
4	5 "	15.708 "	.765 "	15.939 "	19.635 "	9.03 "	12.492 "	8
4 1/2	5.563 "	17.475 "	.629 "	19.990 "	24.299 "	7.20 "	14.564 "	8
5	6.625 "	20.813 "	.577 "	28.889 "	34.471 "	4.98 "	18.767 "	8
6	7 "	23.954 "	.505 "	38.737 "	45.633 "	3.72 "	23.410 "	8
7	8.625 "	27.096 "	.444 "	50.039 "	58.426 "	2.88 "	28.348 "	8
8	9.688 "	30.433 "	.394 "	63.633 "	73.715 "	2.26 "	34.677 "	8
9	10.75 "	33.772 "	.355 "	78.838 "	90.792 "	1.80 "	40.641 "	8



ARMSTRONG BRACE

AN ELASTIC
SUSPENDER
WITHOUT
RUBBER.

F. ARMSTRONG,
BRIDGEPORT,
CONN.



PRICES FOR SAMPLES SENT POSTPAID:

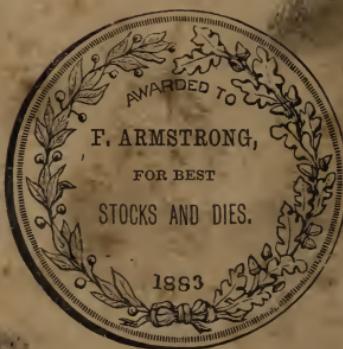
Pair Suspenders	50c.
Pair Garters	25c.
Pair Armlets	20c.
Buckles, (Vest or Pants)	20c.

THE ARMSTRONG M'F'G CO.,
BRIDGEPORT, CONN.,

MANUFACTURERS OF THE CELEBRATED

ARMSTRONG SPIRAL SPRING GOODS,

Viz: GARTERS, ARMLETS, BUCKLES AND SUSPENDERS.



1887.

CATALOGUE AND PRICE

—OF—

THE ARMSTRONG MFG CO. & CO.

BRIDGEPORT, CONN.



ADJUS

INDEX.

	Page
End Dies for Pipe, No. 1	2
" " Bolt, " 1	3
" " Pipe and Bolt, No. 1	3
" " Pipe, No. 2	4
" " Bolt, " 2	5
" " Pipe and Bolt, No. 2	5
" Brass Pipe, No. 2	7
" Pipe, No. 3	8
" " 6	14
" " 7	17
"	32
"	31
"	34
"	3, 5, 6
"	9
"	33
"	23, 24
"	23
"	21, 22
"	26—28
"	10—13
"	12—19

Advantages of Armstrong's Improved Adjustable Pipe Stock and Dies over the Solid Dies.

1ST.—The Armstrong Improved Dies can be adjusted to the variations in the size of fittings.

2ND.—The Armstrong Dies, by reason of their peculiar cutting edge, can be worked with much less labor, and accomplish the desired results in less time than with the solid Die.

3RD.—The Armstrong Dies have a double-taper, that is, the taper at the entrance for the first few threads is greater in degree than the standard taper, which forms a lead to the Dies, causing them to start on the pipe without filing, even when there is a swell or burr, and requiring no pressure to start the Dies on the pipe.

4TH.—The Armstrong Dies being made in parts can be more perfectly constructed; the cutting edges reached more directly; the work done with greater precision and uniformity, by which they accomplish a much better result.

5TH.—The Armstrong Dies can be sharpened without drawing the temper, and can be kept in good condition easier and with less expense than any other Dies ever offered to the public. These Dies can be sharpened the same as any edge tool, and it is not necessary to send them to the manufacturer to be resharpened, as is the case with solid Dies when they become dull.

6TH.—The Armstrong Dies are interchangeable in the stock, and although adjustable, do not need adjusting to cut the standard size for which the Dies are made. The adjusting is only done when the irregularity or variations in the fitting make it necessary. There are corresponding marks ($\frac{S}{1}$) on the Stock and on the Dies ($\frac{1}{S}$) and when these marks are brought into line the Dies will cut the standard size.

7TH.—You will see that by having one of my No 2 Stocks you can by purchasing the Dies and Bushings use it for Pipe, Bolt or Brass Tubing.

Armstrong's Adjustable Stock, No. 1, and Dies for Threading Pipe.



No. 1 Stock, 4 Right or Left Pipe Dies, $\frac{1}{8}$ to $\frac{1}{2}$, each \$9 00
" 1 " 4 each Right and Left Pipe Dies, $\frac{1}{8}$ to $\frac{1}{2}$, " 14 00

PRICE LIST IN PARTS.

No. 1 Stock,	- - - - -	each	\$3 00
" 1 Pipe Dies, Right or Left,	- - - - -	"	1 20
" 1 " Bushings,	- - - - -	"	20
" 1 Wrench,	- - - - -	"	25
" 1 Collar Screw,	- - - - -	"	12
" 1 Adjusting Screw,	- - - - -	"	10
" 1 Thumb Screw,	- - - - -	"	10

Stock and any number of Dies or parts furnished at above prices.

Armstrong's Adjustable Stock, No. 1, and Dies for Threading Bolts.



No. 1 Stock, 7 Bolt Dies, $\frac{1}{4}$ to $\frac{3}{4}$,	-	-	each \$15 00
" 1 " 4 Pipe and 7 Bolt Dies,	-	-	" 20 00
" 1 " 7 Bolt Dies and 7 Taps, $\frac{1}{4}$ to $\frac{3}{4}$,	-	"	20 00

PRICE LIST IN PARTS.

No. 1 Stock,	-	-	-	-	each \$3 00
" 1 Bolt Dies,	$\frac{1}{4}$,	$\frac{5}{16}$,	$\frac{3}{8}$,	$\frac{7}{16}$	" 1 50
" 1 Bolt Dies,	-	$\frac{1}{2}$,	$\frac{5}{8}$,	$\frac{3}{4}$	" 1 75
" 1 Bolt or Pipe Bushings,	-	-	-	-	" 20
" 1 Wrench,	-	-	-	-	" 25
" 1 Collar Screw,	-	-	-	-	" 12
" 1 Adjusting Screw,	-	-	-	-	" 10
" 1 Thumb Screw,	-	-	-	-	" 10

Stock and any number of Dies or parts furnished at above prices.

Armstrong's Adjustable Stock, No. 2, and Dies for Threading Pipe.



No. 2 Stock, 5 Pipe Dies, Right or Left, $\frac{1}{4}$ to 1 inch, \$12 00
" 2 " 5 each, Right and Left Pipe Dies, $\frac{1}{4}$ to 1, 19 50

PRICE LIST IN PARTS.

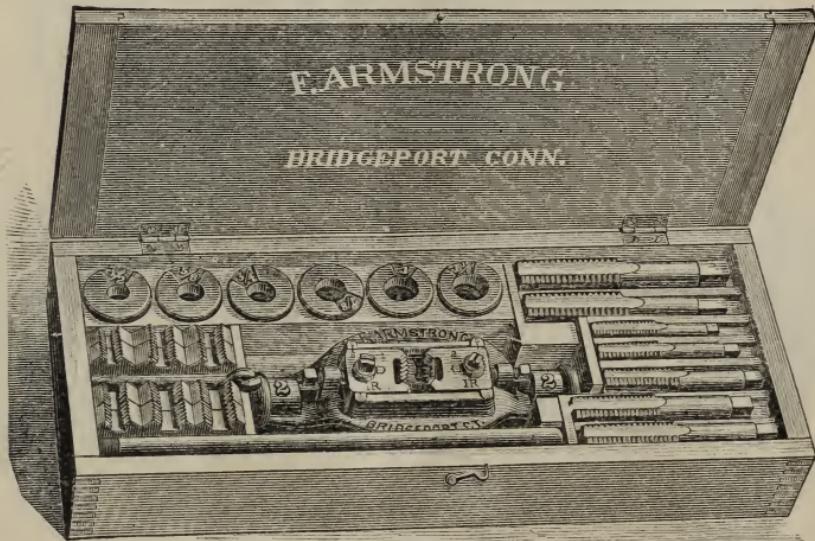
No. 2 Stock,	- - - - -	each	\$3 50
" 2 Pipe Dies, Right or Left,	- - - - -	"	1 50
" 2 Bushings,	- - - - -	"	25
" 2 Long Guide, with Thumb Screw,	- - - - -	"	50
" 2 Wrench,	- - - - -	"	25
" 2 Collar Screw,	- - - - -	"	12
" 2 Adjustable Screw,	- - - - -	"	10
" 2 Thumb Screw,	- - - - -	"	10



$\frac{1}{8}$ inch Dies and Bushing for No. 2, \$1 75.
Stock and any number of Dies or parts, furnished
at above Prices.

No. 2 Long Guide, with Thumb Screw.

Armstrong's Adjustable Stock, No. 2, and Dies for Threading Bolts.



FOR MACHINISTS AND BLACKSMITHS.

No. 2 Stock,	7 Bolt Dies, $\frac{1}{2}$ to $1\frac{1}{4}$ inch,	\$20 00
" 2 "	7 " " " " & 5 Pipe Dies, $\frac{1}{4}$ to 1, 30 00	
" 2 "	7 " " and 7 Taps, $\frac{1}{2}$ to $1\frac{1}{4}$ inch,	30 00

PRICE LIST IN PARTS.

No. 2 Stock.	- - - - -	each \$3 50
" 2 Bolt Dies, $\frac{1}{2}$ and $\frac{5}{8}$, inch,	- - - - -	" 2 00
" 2 " " $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch,	- - - - -	" 2 25
" 2 " " $1\frac{1}{8}$ and $1\frac{1}{4}$ inch,	- - - - -	" 2 50
" 2 Bushings,	- - - - -	" 25
" 2 Wrench,	- - - - -	" 25
" 2 Collar Screw,	- - - - -	" 12
" 2 Set Screw,	- - - - -	" 10
" 2 Thumb Screw,	- - - - -	" 10

Stock and any number of Dies or parts furnished at above Prices.

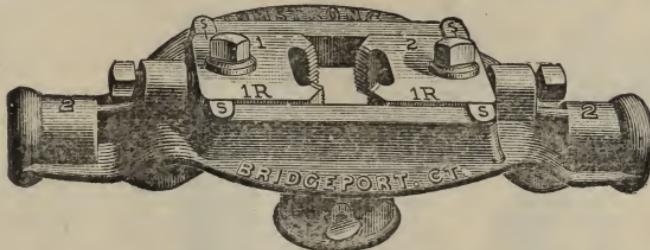


No. 0
MACHINIST'S
SCREW PLATE.

Stock with 7 Dies and 7 Taps, complete, $\frac{1}{4}$ to $\frac{3}{4}$.

— Price, \$20 00.—

Armstrong's Adjustable Stock, No. 2, and Dies for Threading Brass Pipe.



No. 2 Stock, 5 Brass Dies, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 and $1\frac{1}{4}$ inch, \$15 00
" 2 " 5 " " and Taps, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ 1 and $1\frac{1}{4}$ in., 26 25

PRICE LIST IN PARTS.

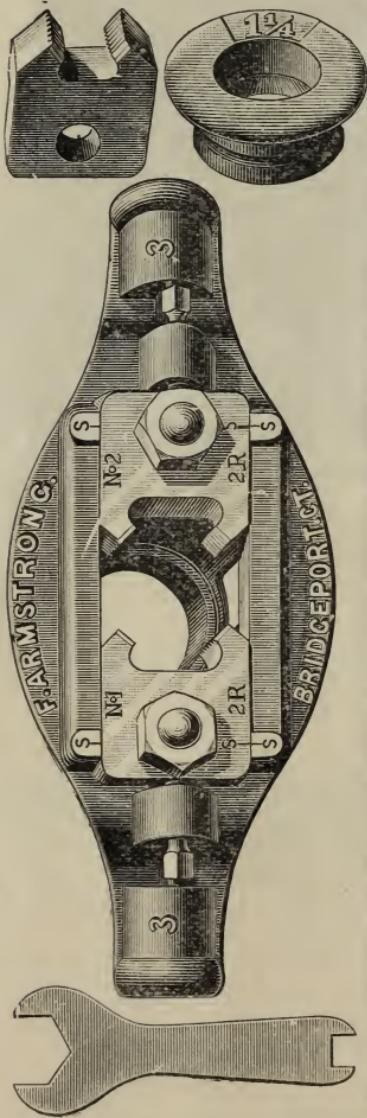
No. 2 Stock,	- - - - -	each	\$3 50
" 2 Brass Dies, Right or Left,	$\frac{5}{8}$ to $1\frac{1}{4}$ inch,	"	2 50
" 2 Bushings—Pipe, Bolt or Brass,	- - - - -	"	25
" 2 Wrench,	- - - - -	"	25
" 2 Collar Screw,	- - - - -	"	12
" 2 Set Screw,	- - - - -	"	10
" 2 Thumb Screw,	- - - - -	"	10

The only true Standard Taps and Dies in the market for Brass Tubing.

Armstrong's Brass or Fine Thread Taps, Right or Left Hand.

Diameter.	No. of threads to Inch.	Price.
$\frac{5}{8}$ inch.	20	\$1 25
$\frac{3}{4}$ inch.	20	1 75
$\frac{7}{8}$ inch.	18	2 25
1 inch.	18	2 75
$1\frac{1}{4}$ inch.	18	3 25

Armstrong's Adjustable Stock. No. 3, and Pipe Dies.



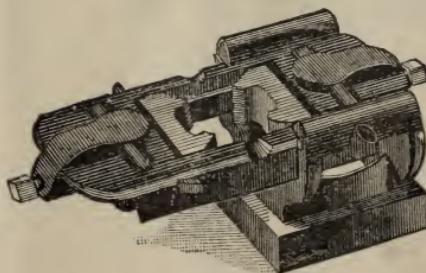
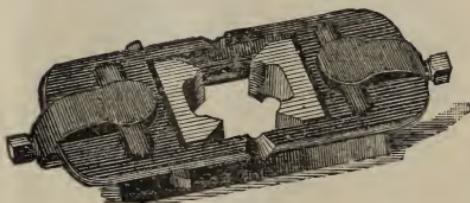
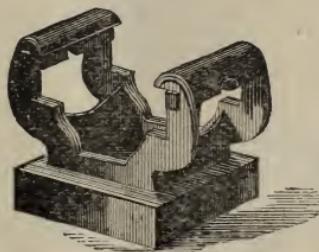
No. 3 Stock, 4 Dies, 1 to 2 inches, Right or Left, - \$24 00

PRICE LIST IN PARTS.

No. 3 Stock,	-	-	-	each	\$7 00
" 3 Dies, Right or Left,	-	-	-	"	4 00
" 3 Rushings,	-	-	-	"	50
" 3 Wrenches, .25,	Collar Screws, .15,	Set Screw,	.15	each.	

Stock and any number of Dies or parts, furnished at above Prices.

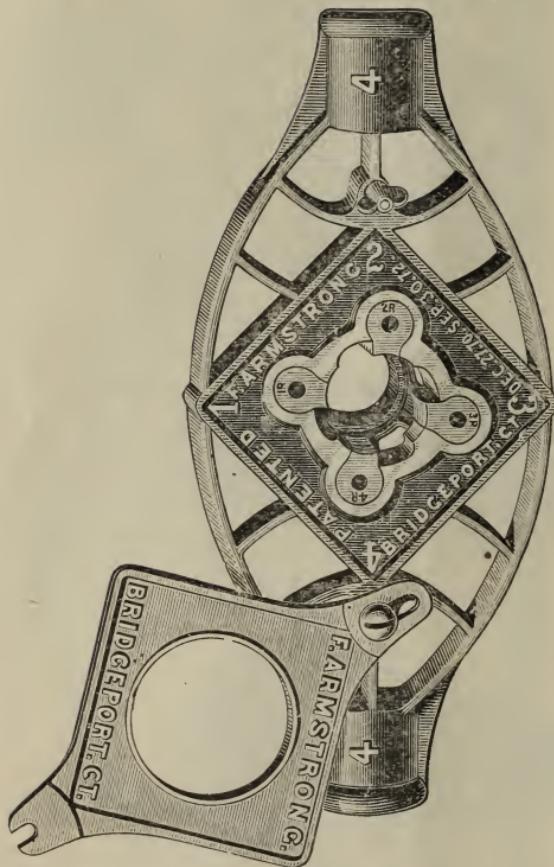
Armstrong's Machine Fixture for holding No. 3 Adjustable Dies from One to Two Inches.



Machine Fixture for No. 3 Dies, \$4 00

The above Cuts show the Fixture in parts and complete, and can be attached to any Piping Machine that takes Dies four by one inch.

ARMSTRONG'S SECTIONAL STOCK, No. 4, and DIES FOR PIPE.



PRICE LIST IN PARTS.

No. 4 Stock,	-	-	-	each \$7 50
" 4 Blocks with Cutter, Right or Left,	-	-	-	" 3 00
" 4 Bushings,	-	-	-	" 50
" 4 Block without Cutter,	-	-	-	" 1 00
Cutters, Right or Left,	-	-	-	" 50

No. 4 Stock 3 Dies, 1 $\frac{1}{4}$ to 2 inch,	-	-	-	\$18 00
" 4 " 3 Right and 3 Left Dies, 1 $\frac{1}{4}$ to 2 inch,	-	-	-	27 00
" 4 " 4 Dies, 1 to 2 inch,	-	-	-	21 00
" 4 " 4 Right and 4 Left Dies, 1 to 2,	-	-	-	33 00

Stock and any number of Dies, either Right or Left Hand, furnished at above Prices.

ARMSTRONG'S SECTIONAL DIE.



Block and Cutters, - - - - - \$3 00

The cut on the opposite page, showing the Stock with Die in plate, is No. 4 for threading pipe from one to two inches.

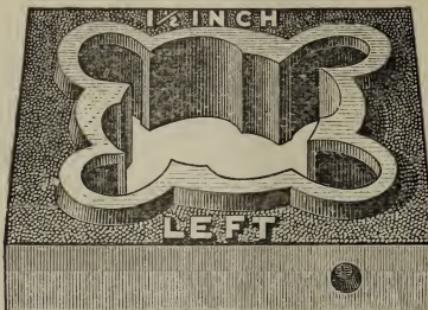
These Dies are intended to take the place of the Solid Steel Dies and will fit any Stock that takes a Die four by one inch.

They possess the following advantages over the Solid Dies:

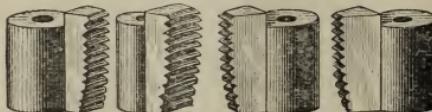
1ST.—Having to harden the Small Cutters only I am able to give them a high uniform temper, which will save greatly the wear of the thread.

2ND.—I claim this to be the only true standard Die in the market, because the Block, in which the Cutters are set, is made to standard gauge, and as the Cutters only are hardened, there is no expansion or contraction as in the Solid Dies caused by hardening.

ARMSTRONG'S SECTIONAL BLOCK and CUTTERS.



Block, - - - - - \$1 00



Cutters, - - - - - per set, \$2 00

3RD.—The Cutters can be taken out of the Blocks and ground when ever they become dull, as you will readily perceive.

4TH.—The Cutters have a double taper, that is the taper at the entrance for the first few threads is greater in degree than the standard taper, which forms a lead to the Dies, causing them to start on the pipe without filing when there is a burr; it requires no pressure whatever to start the Dies on the pipe. This Patent applies to all Dies made by me, and does away with the lead screw on all the Die plates or Stocks of my manufacture.

5TH.—They can be renewed by purchasing the Cutters only, since the Blocks will last any length of time, at a less cost than the Solid Dies.

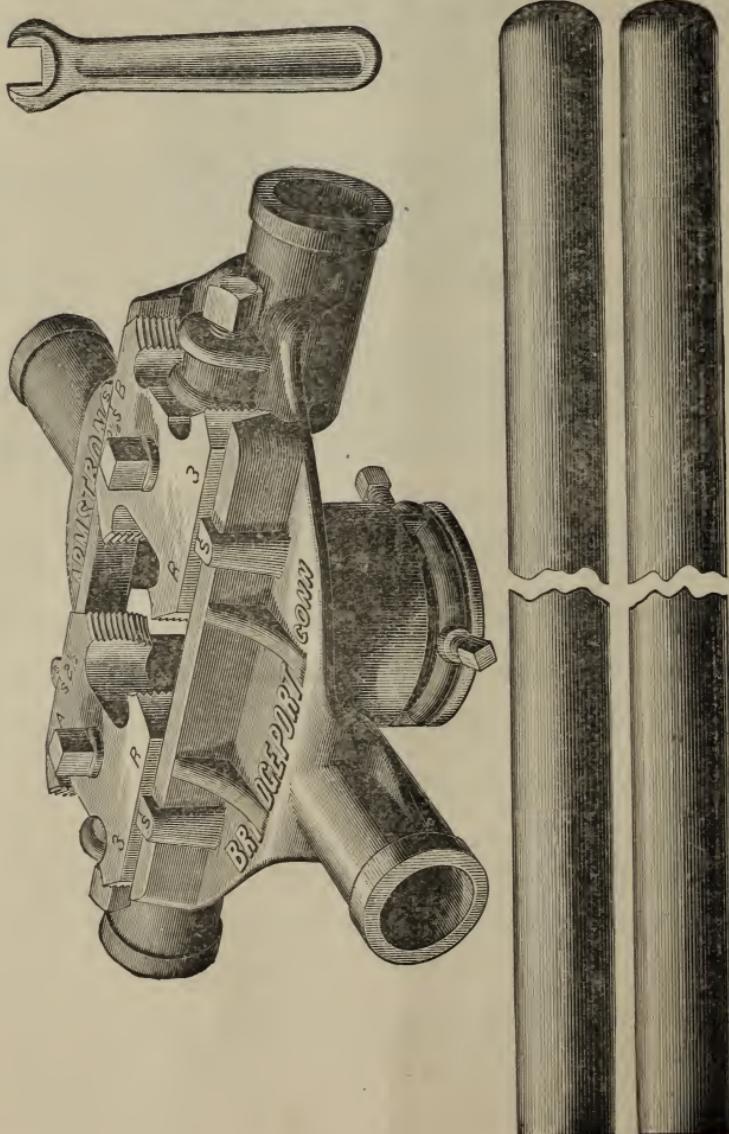
In case of damage or breakage to any one or more of the Cutters you have to purchase only those Cutters needed to replace the broken or damaged ones, as the Dies or Cutters are interchangeable.

You will note that the Cutters are numbered successively 1, 2, 3, 4, and all you will have to bear in mind is that they begin with No. 1, going to the right, 1, 2, 3, 4, as appears in the Block with Cutters in on the preceding page.

6TH.—The four Blocks, say 1 inch, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2 inches and the 16 Cutters (or four full sets) are interchangeable, and any sets of Cutters taken out of its present Block and placed in another will cut the size marked on the Block; again take all the Cutters out of the four Blocks and mix them up, take any, 1, 2, 3, 4 (Cutters) and put them in either 1 inch, $1\frac{1}{4}$, $1\frac{1}{2}$ or 2 inch Block, they will cut a true standard as marked on the Block.

From this you will see you can cut from one to two inches so long as you have the four Cutters, marked 1, 2, 3, 4 consecutively.

Armstrong's Adjustable Stock, No. 6, and Dies for
Threading Pipe, $2\frac{1}{2}$ and 3 inch.



The cut on opposite page represents No. 6 Stock with Dies cutting $2\frac{1}{2}$ and 3 inch pipe.

They are adjustable to the variations in fittings, and have the double taper so that they will start on the pipe without lead screw.

The change from $2\frac{1}{2}$ to 3 inch is made by simply reversing the dies end for end when they will cut to standard sizes without further adjustment.

PRICE LIST.

No. 6 Stock with Dies cutting $2\frac{1}{2}$ and 3 inch,	-	\$40 00
“ 6 Stock without Dies,	- - - - -	25 00
“ 6 Dies cutting $2\frac{1}{2}$ and 3 inch,	- - - - -	15 00
“ 6 Bushings,	- - - - -	1 00
“ 6 Wrench, steel forged,	- - - - -	50
“ 6 Collar Screw,	- - - - -	25
“ 6 Set Screw,	- - - - -	20

Stock and any number of Dies or parts at above Prices.

Armstrong's Adjustable Stock, No. 7, and Dies for
Threading Pipe, $2\frac{1}{2}$, 3, $3\frac{1}{2}$ and 4 inch.

Armstrong's Adjustable Stock, No. 7,
and Dies for Threading Pipe,
 $2\frac{1}{2}$, 3, $3\frac{1}{2}$, and 4 inch.

These Dies come in sets of four. Each piece being double ended. We can furnish them threaded

$2\frac{1}{2}$ and 3

$3\frac{1}{2}$ and 4

or all ends alike in any of the above sizes.

They have same Adjustable Features and Double Taper as our other Dies.

PRICE LIST.

No. 7, Stock with Dies, $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 4 inch,	\$60 00
" 7, Dies,	16 00
" 7, Bushings,	1 50
" 7, Collar Set or Leader Screw,	25
" 7, Stock Wrench,	75

HAND AND MACHINE

TAPS.



Machine Nut-Tap.



Taper Tap.



Plug Tap.



Bottoming Tap.



Short-Shank Die
Hob, for cutting
open Die.

PRICE LIST

—OF—

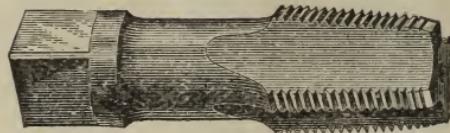
HAND AND MACHINE TAPS.

Diameter.	No. of threads to Inch.	Hand Taps, Price each.	Hand Taps, Price, per set.	Machine Nut- Taps, Price each
$\frac{1}{4}$ in.	18, 20 and 22	\$ 45	\$1 35	\$ 60
$\frac{5}{16}$ in.	16 and 18	50	1 50	70
$\frac{3}{8}$ in.	14, 16 and 18	55	1 65	80
$\frac{7}{16}$ in.	12, 14 and 16	60	1 80	90
$\frac{1}{2}$ in.	12, 13 and 14	70	2 10	1 00
$\frac{9}{16}$ in.	12 and 14	80	2 40	1 15
$\frac{5}{8}$ in.	10, 11 and 12	90	2 70	1 30
$\frac{11}{16}$ in.	11 and 12	1 05	3 15	1 45
$\frac{3}{4}$ in.	10, 11 and 12	1 20	3 60	1 60.
$\frac{13}{16}$ in.	10	1 40	4 20	1 80
$\frac{7}{8}$ in.	9 and 10	1 60	4 80	2 10
$\frac{15}{16}$ in.	9	1 80	5 40	2 40
1 in.	8	2 00	6 00	2 80
$1\frac{1}{8}$ in.	7 and 8	2 25	6 75	3 20
$1\frac{1}{4}$ in.	7	2 60	7 80	3 70
$1\frac{3}{8}$ in.	6	3 00	9 00	4 20
$1\frac{1}{2}$ in.	6	3 50	10 50	4 70
$1\frac{5}{8}$ in.	5 and $5\frac{1}{2}$	4 20	12 60	5 30
$1\frac{3}{4}$ in.	5	5 00	15 00	6 00
$1\frac{7}{8}$ in.	4 $\frac{1}{2}$ and 5	5 80	17 40	6 80
2 in.	4 $\frac{1}{2}$	6 70	20 10	7 70

PIPE TAPS

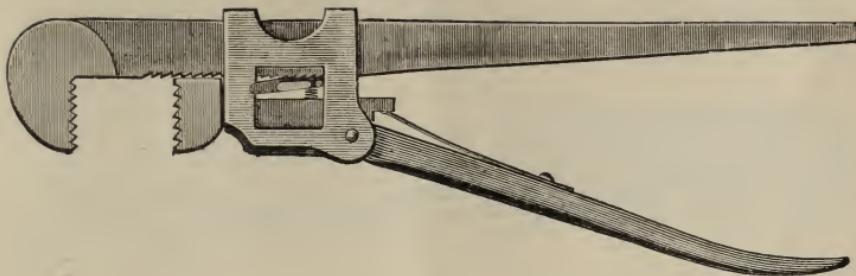
— AND —

REAMERS.



Pipe-taps, with right or left-hand threads, pipe-hobs and
reamers are made of the following sizes, and kept in stock:

Diameter.	Price.	Diameter.	Price.
$\frac{1}{8}$ inch.	\$1 12	$1\frac{1}{2}$ inch.	\$4 62
$\frac{1}{4}$ inch.	1 25	2 inch.	6 25
$\frac{3}{8}$ inch.	1 50	$2\frac{1}{2}$ inch.	10 50
$\frac{1}{2}$ inch.	1 87	3 inch.	15 00
$\frac{3}{4}$ inch.	2 50	$3\frac{1}{2}$ inch.	22 00
1 inch.	3 12	4 inch.	33 00
$1\frac{1}{4}$ inch.	3 75		



RAPID TRANSIT WRENCH.

This Wrench, made of Best Hammer Steel Forgings,
(excepting Yoke) is

Simple, Practical and Powerful.

Susceptible of quicker adjustment than any Wrench in
the market, and as it can be used on either
Square or Round Surfaces, it is

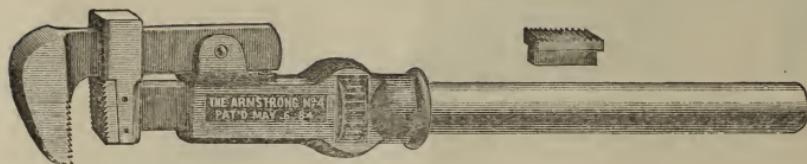
A Useful Tool in the Household,
and especially in Machine shops,
saving Time and Labor.

No. 1 takes from 0 to $\frac{1}{2}$ inch, - - - each, \$2 50
" 2 " " 0 to 1 " - - - " 2 75

Nickel plated 25 cents extra.

To open the Wrench, lift the self adjusting rachet.

THE ARMSTRONG.



A NEW PIPE WRENCH.

Will not crush the Pipe.

Unequaled by any ever offered for Strength, Lightness
and Quick Action combined with sim-
plicity in construction.

A trial will convince any one that it is all I claim for it.

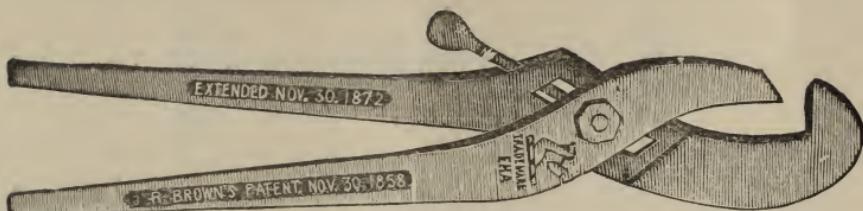
PRICES FOR EACH:

No. 3, takes from 0 to 1 inch,	-	-	-	-	\$2 00
" 4, " " $\frac{1}{8}$ " $1\frac{1}{2}$ "	-	-	-	-	2 75
" 5, " " $\frac{3}{8}$ " $2\frac{1}{2}$ "	-	-	-	-	4 50
" 6, " " 1 " 4 "	-	-	-	-	12 00

EXTRA JAWS.

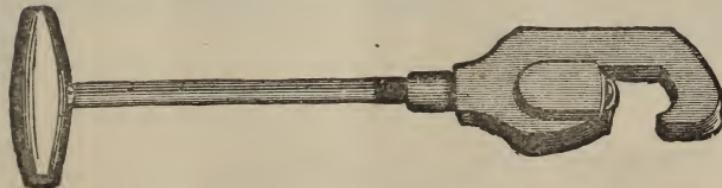
No. 3, 40c. No. , 50c. No. 5, 70c. No. 6, \$1 00

BROWN'S PATENT ADJUSTABLE PIPE TONGS.



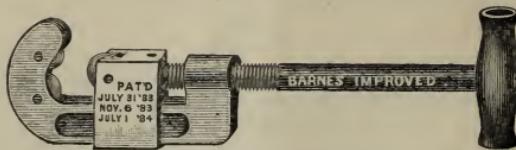
	Each.
No. 1, For $\frac{1}{8}$ to $\frac{3}{4}$ inch pipe,	\$1 00
" 1 $\frac{1}{2}$, For $\frac{3}{8}$ to 1 inch pipe,	1 25
" 2, For $\frac{1}{2}$ to $1\frac{1}{4}$ inch pipe,	1 60
" 3, For 1 to 2 inch pipe,	2 00
" 4, For $1\frac{1}{2}$ to 3 inch pipe,	2 75
" 5, For $2\frac{1}{2}$ to 4 inch pipe,	4 00
" 6, For 3 to 5 inch pipe,	18 00
" 7, For 4 to 7 inch pipe,	25 00

STANWOOD'S PATENT PIPE CUTTERS.



	Each.
No. 1, Case Hardened, cuts $\frac{1}{8}$ inch to 1 inch,	\$1 50
" 2, " " " 1 " " 2 " .	2 25
" 3, " " " 2 " " 3 " .	7 00
" 1, Steel Faced, . \$1 75 No. 2, \$2 50 No. 3, \$7 50	
" 1, Cutter Wheels, . 12 " 2, 18 " 3, 25	
" 1, " Bl'ks & Wheels, 40 " 2, 60 " 3, 1 00	

Barnes' Three Wheel Pipe Cutter.



PRICES.

No. 1 Pipe Cutter, $\frac{1}{8}$ to 1 inch,	\$ 4 50
No. 2 Pipe Cutter, $\frac{1}{2}$ to 2 inch,	6 00
No. 3 Pipe Cutter, $1\frac{1}{2}$ to 3 inch,	10 00
No. 4 Pipe Cutter, 3 to 4 inch,	20 00
No. 5 Pipe Cutter, 4 to 6 inch,	30 00
Cutter Wheels, No. 1,	25
Cutter Wheels, No. 2,	30
Cutter Wheels, No. 3,	40
Cutter Wheels, No. 4,	50
Cutter Wheels, No. 5,	75
Wheel Taper Pins, Nos. 1, 2 and 3, 10c. each, per doz.,	1 00
Wheel Taper Pins, Nos. 4 and 5, 18c. " " "	2 00

D. Saunders' Sons' Wheel Pipe Cutter.



PRICE LIST.

		Each.
No. 1 cuts pipe $\frac{1}{8}$ to 1 inch inclusive,	\$ 3 00	
No. 2 cuts pipe 1 to 2 inches inclusive,	4 50	
No. 3 cuts pipe 2 to 3 inches inclusive,	14 00	

EXTRA CUTTER WHEELS.

No. 1, 24 cents.	No. 2, 32 cents	No. 3, 60 cents.
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EXTRA BLOCK AND WHEEL.

No. 1, \$1 25.	No. 2, \$1 75.	No. 3, \$3 25.
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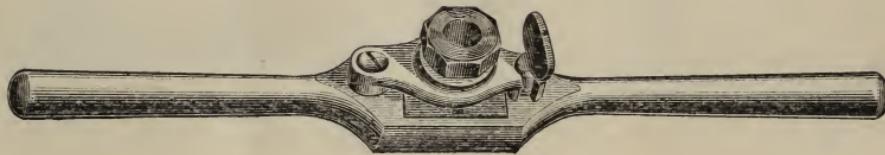
EXTRA ROLLERS.

No. 1, 24 cents.	No. 2, 32 cents.	No. 3, 50 cents.
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NEW

ADJUSTABLE

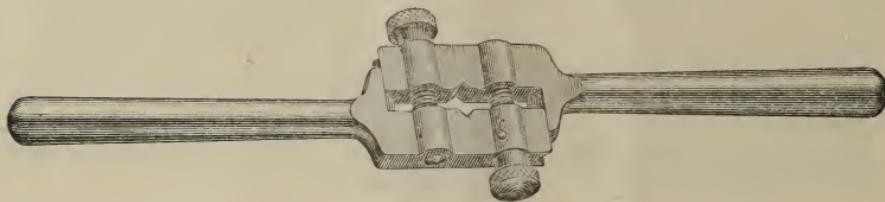
TAP WRENCH.



Takes $\frac{1}{4}$ to $\frac{1}{2}$ inch.

PRICE, \$2.00.

ARMSTRONG'S PATENT TAP WRENCH.



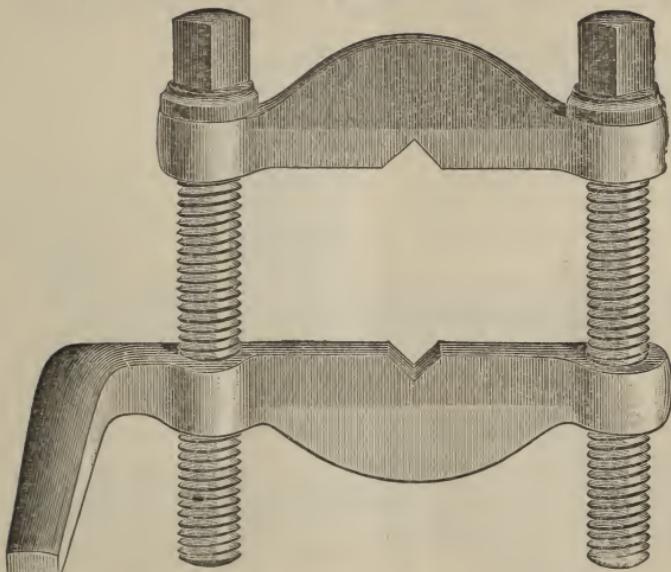
No. 1. 12 inches long, fitting Bolt Taps $\frac{1}{4}$ to $\frac{5}{8}$ in. \$1 50

No. 2 { 18 inches long, fitting Bolt Taps $\frac{5}{8}$ to 1 in.
" Pipe " $\frac{1}{8}$ " $\frac{1}{2}$ " } \$2 50

No. 3 { 30 inches long, fitting Bolt Taps 1 to $1\frac{1}{2}$ in.
" Pipe " $\frac{1}{2}$ " 1 " } \$4 00

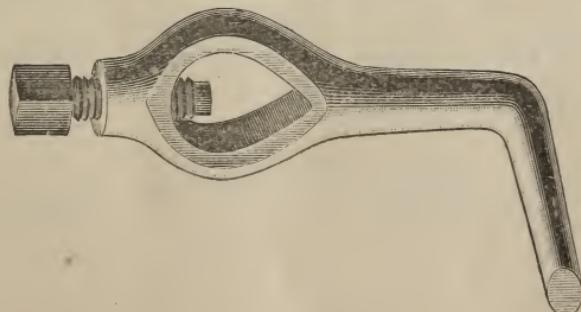
These Wrenches are the most practical tools of the kind in the market, combining simplicity and strength with quick adjustment.

DROP FORGED CLAMP DOG.



No. 1.	1 $\frac{3}{4}$ inches between screws,	.	.	.	.	\$1 50
" 2.	2 $\frac{1}{4}$ "	"	"	"	.	2 00
" 3.	2 $\frac{3}{4}$ "	"	"	"	.	2 50
Per set of three	.	.	.	.	.	5 50

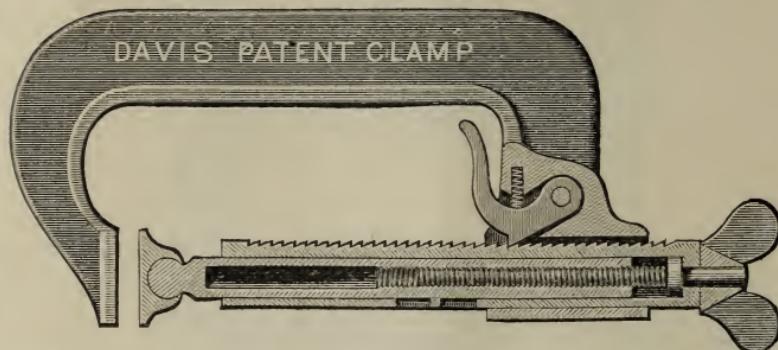
DROP FORGED STEEL DOGS.



PRICE.

$\frac{3}{8}$ in., 50c. $\frac{1}{2}$ in., 60c. $\frac{3}{4}$ in., 70c. 1 in., 80c.

PATENT CLAMPS.



The new Clamp represented in the above cut on account of combining the qualities of quick adjustment and durability, recommends itself as the most practical tool of the kind ever offered in the market. It has the especial advantage over all others in clamping the work without displacement, being so constructed that in operating the plunger or screw it does not turn as in all other clamps, but is forced directly on the work by the thumb-screw.

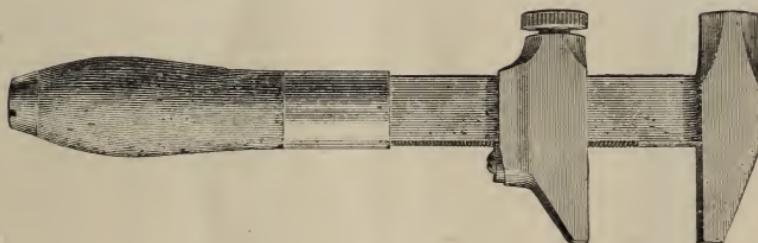
These clamps are made of the best malleable iron, and a trial of them will prove the justice of my claim for their being not only the cheapest and easiest working, but the only practical adjustable clamp made.

PRICE LIST.

No. 1, opens 3 inches,	.	.	.	.	.	dozen, \$	7 50
" 2, " 5 "	.	.	.	.	.	"	8 50
" 3, " 7 "	.	.	.	.	.	"	12 00
" 4, " 10 "	.	.	.	.	.	"	16 00
" 5, " 12 "	.	.	.	.	.	"	20 00

DAVIS' PATENT

MONKEY WRENCH.



Will open one inch more than any

Wrench of its size ever made.

One Dozen, - - - - \$12.00

ARMSTRONG'S PATENT LADDER HOOK



*A Useful Article to all who use Ladders, especially to
Painters, Masons and Fruit Pickers.*

As will readily be seen from cut, by pulling tongue it will clamp with foot on
two rounds of the Ladder.

These Hooks are made of Forged Iron and are strong and reliable.

Price, - - - - - \$1.50.

TESTIMONIALS.

We have almost constantly unsolicited testimonials coming from our customers —some few of which we take the liberty to append.

GRAFTON, Mass., Dec. 27, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Enclosed please find check to balance account of Hassanamisco Water Co., \$37.00.

The tools give perfect satisfaction and I would recommend to all persons in need of first-class dies for cutting thread on iron pipes.

Very truly,

SOLON F. SMITH, Sup't.

SKANNEATELES FALLS, N. Y., Nov. 22, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Am pleased to say the Bolt Dies and
Taps work to our satisfaction.

Very truly,

F. G. WEEKS.

W. T. HALE, Sup't.

SALEM, Va., Nov. 6, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Please send me $\frac{1}{2}$ inch Right Hand
Die for your No. 2 Stock, shipped me September 19, 1886.
They are the best I ever used.

ROBT. H. CARPER.

ASBURY PARK, N. J., Dec. 8, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

On the 6th of February, 1885, we purchased from you a set of (No. 6) Right Hand Dies with loose cutters. These dies have given us great satisfaction.

* * * Yours truly,

URIAH WHITE.

Per JAS. L. BLACK.

UPPER DAM, Maine, October 7, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Will you please send me one of your price lists. I have already used some of your Piping tools and like them better than any other.

Yours truly,

W. E. RAND.

ORANGE, Mass., October 14, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Please send catalogue and prices of your Stocks and Dies Pipe Wrenches and Vises, with discounts. I am going to get some tools and like yours best.

Yours truly,

M. W. MAYO.

SLIGO, Pa., November 25, 1886.

The Armstrong M'f'g Co.

GENTLEMEN:—

Please send to us by Express * * * We are using and selling the Armstrong Stock and Dies and find them superior to any we have ever had.

Yours truly,

J. B. MILLER & SON.

BROOKLYN, N. Y., Nov. 26, 1884.

F. Armstrong, Esq.

DEAR SIR:—

I have used for the past three years, and keep for sale the Armstrong Stocks and Dies. They are a splendid tool for threading iron or brass pipe, and therefore I highly recommend them as a superior Stock and Die.

Very respectfully yours,

JAS. W. BIRKETT,
67 Smith Street,
Brooklyn, N. Y.

NEW YORK, Nov. 26th, 1884.

Mr. F. Armstrong,

132 Church Street.

DEAR SIR:—We have used your Stocks and Dies for the past four years in the construction and erection of our refrigerating apparatus. We use them exclusively for all hand-cut threads, having in constant use about two dozen Stocks. We are happy to testify that they give excellent satisfaction.

Yours very respectfully,

THE DE LA VERGNE REF'G CO.,
Per J. E. WILSON,
Mech. Sup't.

ALBANY, N. Y., Feb. 25, 1887.

The Armstrong Mfg Co.

GENTLEMEN:—

I want to congratulate you on your new Rapid Transit Pipe Wrench. I think it is the best Wrench in the market.

Yours very respectfully,

THOMAS HYDE.

BUFFALO, N. Y., September 30, 1884.

F. Armstrong, Esq.

DEAR SIR:—

The Stocks and Dies of your manufacture used by us during the last four or five years have given good satisfaction. We are using them now exclusively in our business as well as in the work shop, as the best we know of.

Most respectfully yours,

IRLBACKER & DAVIS.

DANBURY, Conn., Sept. 29, 1884.

F. Armstrong.

SIR:—

We have had your Stock and Dies in use in our shop for over five years and we give them the preference to any that we know of for the same purpose. We have examined various others and have bought some since we began to use yours but yours are the *best*.

Yours truly,

THE J. M. IVES CO.,

Per J. M. Ives, Pres't.

KINGSTON, N. Y., October 9, 1884.

F. Armstrong, Bridgeport, Conn.

DEAR SIR:—

The Stocks and Dies cutting from 1 to 3 inches, recently bought of you, have proved very satisfactory, doing their work better and much easier than any other I have ever used.

Respectfully yours,

J. M. LOW,

Supt. Kingston Water Works.

BRIDGEPORT, Conn., Oct. 14, 1884.

F. Armstrong, Esq.

DEAR SIR:—

We have used your Sectional and Adjustable Dies, both in our stocks and machines for the past eighteen months, and are so well pleased with them, that we have adopted them exclusive of all others. More especially do we commend the Sectional Dies for machine use, as they will cut from 1,000 to 1,200 more threads without repairs than any other dies we have ever used.

Yours respectfully,

J. R. BROWN,

Supt. for The Auto. Fire Alarm
and Extinguisher Co.

BURLINGTON, Vt., Sept. 30th, 1884.

F. Armstrong, Bridgeport, Conn.

DEAR SIR:—

We have in use three complete sets of the Armstrong Stocks and Dies. Our men that use them say they are the best thing for cutting pipe threads by hand that they have ever seen.

WHEELOCK & KINGSLAND.

BOSTON, Nov. 19, 1884.

Mr. F. Armstrong, Bridgeport, Conn.

DEAR SIR:—

Having used and sold your goods for a number of years, we take pleasure in bearing testimony to the fact that they give the best of satisfaction wherever used. We heartily recommend them for their durability and labor-saving qualities.

Yours truly,

GEO. K. PAUL & CO.,

Per W. P. PIERCE.

THE BRIDGEPORT GAS LIGHT CO.

C. A. GERDENIER, SUPERINTENDENT.

BRIDGEPORT, Conn., Dec. 1st, 1884.

Mr. F. Armstrong.

DEAR SIR:—

We have had in use for five or six years your Stocks and Dies, and I have no hesitation in saying they are the *best* we ever had. The Dies do cut a beautiful thread.

Yours truly,

C. A. GERDENIER,

Sup't Gas Works.

CITY OF BRIDGEPORT, Dec. 1st, 1884.

Mr. F. Armstrong.

DEAR SIR:—

The special Tap and Die you made for the Fire Department for tapping and cutting over (when injured) the hose couplings works to a charm and we would not be without it. We also use the Die to cut over the discharge nipple to the hydrants when they are injured. It works fine and gives no trouble.

Yours truly,

CHAS. A. GERDENIER,

Chief Eng. Fire Depar't.

Bridgeport, Ct.

PROVIDENCE, R. I., Aug. 5th, 1882.

F. Armstrong, Esq.

DEAR SIR:—

Have had for the past eight months your Patent Adjustable Stock and Dies in use and find that in many cases they can be used when the Solid Dies would be of no avail; and the ease with which they catch, and the smoothness and evenness of the threads make them superior to others—and have found the same much more satisfactory in every particular than I had first supposed.

Yours respectfully,

DAVID BURTON,

Steam and Gas Pipe Works, 110 Eddy Street.

NEW LONDON, Conn., Aug. 2d, 1882.

F. Armstrong, Esq.

DEAR SIR:—

We have used your No. 2 Stock and Dies for the past three years and find them every way satisfactory. We use it constantly, as our men will not use the old pattern Stock if they can get yours. We have ground the Dies several times and they cut as well as ever. We had the first one used in the city, but see that all others in our line are using them now.

Yours, etc.,

MALLORY & CO.

RUTLAND, Vt., Aug. 28, 1884.

Mr. F. Armstrong.

DEAR SIR:—

Please find enclosed draft for Twenty-four and $\frac{50}{100}$ Dollars, in settlement of account.

I am more than pleased with my Die Stock and Dies and would not take three times what it cost if I could not get another.

Yours, etc.,

E. A. VALIQUETTE.

UTICA, N. Y., Sept. 29, 1884.

F. Armstrong, Esq.

DEAR SIR:—

We have been using and selling for some time past the Armstrong Stocks and Dies and find them excellent and we believe them to be giving good satisfaction to our customers.

WM. DENT & SON.

WASHINGTON, D. C., July 15, 1879.

F. Armstrong, Esq., Bridgeport, Conn.

DEAR SIR:—

For six months we have had three sets of your "Patent Adjustable Stocks and Dies" in constant operation, and I hereby express my unqualified approbation, both as to the quantity of work they do and the manner in which they perform it.

With one set, during that time, we have cut on an average twenty threads per day, and only within the last month has the Die needed grinding.

The extreme ease with which it catches the thread is also a feature which merits my earnest commendation.

For quick work, accuracy and durability, they are, in my opinion, superior to any ever manufactured.

Yours truly,

JAMES WILKINSON,

Supt. Washington Gas Light Co.

LIST

Showing Points Where Our Goods May Be Obtained,
WITH DEALER'S NAMES.

ALABAMA.

Birmingham----- Milner & Kettig

ARKANSAS.

Little Rock----- D. R. Wing & Co.

CALIFORNIA.

Los Angeles----- Schoder, Johnston & Co.

Oakland----- Dalziel & Moller

San Francisco----- Hawley Bros. & Co.

"----- Huntington, Hopkins & Co.

COLORADO.

Denver----- National Machinery Co.

CONNECTICUT.

Hartford----- Knox & Cunningham

"----- Pratt & Whitney Co.

New Haven----- C. S. Mersick & Co.

DISTRICT OF COLUMBIA.

Washington----- H. McShane & Co.

FLORIDA.

Jacksonville----- Geo. F. Drew & Co.

GEORGIA.

Atlanta.....	Beck & Gregg.
Augusta.....	Geo. R. Lombard

ILLINOIS.

Chicago.....	Machinists' Supply Co.
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INDIANA.

Indianapolis.....	Knight & Jillson
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KENTUCKY.

Louisville.....	The Ahrens & Ott M'f'g Co.
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LOUISIANA.

New Orleans.....	Louis Schwartz
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MAINE.

Portland.....	T. L. Merrill & Co.
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MASSACHUSETTS.

Boston.....	Geo. K. Paul & Co.
".....	Walworth M'f'g Co.

Worcester.....	Joseph Mason
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MICHIGAN.

Detroit.....	Detroit Sheet Lead Pipe Works
Grand Rapids.....	Schriver, Weatherly & Co.

MINNESOTA.

Minneapolis.....	Janny Semple & Co.
St. Paul.....	Willis, Rogers & Co.
".....	H. P. Rugg & Co.

MISSOURI.

Kansas City.....	English Bros. M'f'g Co.
St. Louis.....	L. M. Rumsey M'f'g Co.
".....	Simmons Hardware Co.
".....	Nelson, N. O. M'f'g Co.

NEBRASKA.

Omaha.....	The A. L. Strang Co.
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NEW HAMPSHIRE.

Manchester	S. C. Forsaith Machinery Co.
Portsmouth	Rider & Cotton

NEW JERSEY.

Newark	Macnet & Doremus
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NEW YORK.

Albany	M. E. Veile
Brooklyn	Henry McShane & Co.
Buffalo	Irlbacker & Davis
Rochester	Louis Ernst & Son
Syracuse	Pierce, Butler & Pierce
Troy	Troy Belting & Supply Co.
New York City	Henry A. Rogers
" "	McNab & Harlin
" "	Manning, Maxwell & Moore
" "	W. C. Duyckink
" "	Peck Bros.

OHIO.

Cincinnati	Cincinnati Sheet & Lead Pipe Works
• Cleveland	Edward H. Foster
Toledo	Shaw, Kendall & Co.

PENNSYLVANIA.

Philadelphia	Taws & Hartman
Pittsburgh	Pittsburgh Supply Co.
Scranton	Hunt & Connell

RHODE ISLAND.

Pawtucket	Pawtucket Steam & Gas Pipe Co.
Providence	Providence " " "

TENNESSEE.

Chattanooga	C. E. James & Co.
Knoxville	Chas. Kurth

WISCONSIN.

Milwaukee	Thomas & Wentworth M'f'g Co.
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CANADA.

Montreal	J. & H. Taylor
"	Thos. Robertson & Co.
Toronto	J. B. Cloudsley
"	Jas. Morrison
Kingston	McKevely & Birch
Hamilton	Young & Bro.

Hamburg, Germany	A. W. Niemeyer
Brussels, Belgium	Louis Reinelt
Vienna, Austria	A. W. Kirsch
London, England	Chas. Churchill & Co.

WROUGHT IRON WELDED PIPE

FOR STEAM, GAS, WATER, OR OIL.

1 inch and below, butt-welded; proved to 300 pounds per square inch hydraulic pressure.
 $1\frac{1}{4}$ inch and above, lap-welded; proved to 500 pounds per square inch hydraulic pressure.

TABLE OF STANDARD SIZES.

Inside Diameter.	Actual Outside Diameter.	External Circumference.	Length of Pipe, per sq. foot of Outside Surface.	Internal Area.	External Area.	Length of Pipe containing one Cubic Foot.	Weight per foot of Length.	No. of Threads per inch of Screw.
$\frac{1}{8}$	-405 in.	1.272 in.	9.44 ft.	.0572 in.	.129 in.	2500 ft.	.243 lbs.	27
$\frac{1}{4}$	-54 "	1.696 "	7.075 "	.1041 "	.229 "	1385 "	.422 "	18
$\frac{3}{8}$	-675 "	2.121 "	5.657 "	.1916 "	.358 "	751.5 "	.561 "	18
$\frac{1}{2}$	-84 "	2.652 "	4.502 "	.3048 "	.554 "	472.4 "	.845 "	14
$\frac{3}{4}$	-1.05 "	3.299 "	3.637 "	.5335 "	.866 "	270 "	1.126 "	14
1	-1.315 "	4.134 "	2.903 "	.8627 "	1.357 "	166.9 "	1.670 "	$11\frac{1}{2}$
$1\frac{1}{4}$	-1.66 "	5.215 "	2.303 "	1.496 "	3.164 "	96.25 "	2.258 "	$11\frac{1}{2}$
$1\frac{1}{2}$	-1.9 "	5.969 "	2.01 "	2.038 "	3.835 "	70.65 "	2.694 "	$11\frac{1}{2}$
2	-2.375 "	7.461 "	1.611 "	3.355 "	4.430 "	43.36 "	3.667 "	$11\frac{1}{2}$
$2\frac{1}{2}$	-2.875 "	9.032 "	1.328 "	4.783 "	6.491 "	30.11 "	5.773 "	8
3	-3.5 "	10.996 "	1.091 "	7.388 "	9.621 "	19.49 "	7.547 "	8
$3\frac{1}{2}$	-4 "	12.566 "	9.955 "	9.837 "	12.566 "	14.56 "	9.055 "	8
4	-4.5 "	14.137 "	8.49 "	12.730 "	15.904 "	11.31 "	10.728 "	8
$4\frac{1}{2}$	-5 "	15.708 "	7.65 "	15.939 "	19.635 "	9.03 "	12.492 "	8
5	-5.563 "	17.475 "	6.29 "	19.990 "	24.299 "	7.20 "	14.564 "	8
6	-6.625 "	20.813 "	5.777 "	20.889 "	34.471 "	4.98 "	18.767 "	8
7	-7.625 "	23.954 "	5.055 "	38.787 "	45.663 "	3.72 "	23.410 "	8
8	-8.625 "	27.096 "	4.444 "	50.039 "	58.426 "	2.88 "	28.348 "	8
9	-9.688 "	30.433 "	3.944 "	63.633 "	73.715 "	2.26 "	34.677 "	8
10	-10.75 "	33.772 "	3.555 "	78.838 "	90.793 "	1.80 "	40.641 "	8



PRICES FOR SAMPLES SENT POSTPAID:

Pair Suspenders	50c., 75c., \$1.00
Pair Garters	25c.
Pair Armlets	20c.
Buckles, (Vest or Pants)	20c.

THE ARMSTRONG M'FG CO.,
BRIDGEPORT, CONN.,

MANUFACTURERS OF THE CELEBRATED

ARMSTRONG SPIRAL SPRING GOODS,
Viz: GARTERS, ARMLETS, BUCKLES AND SUSPENDERS.

